

Moab Viewpoint

User Guide 10.1.0

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Moab Viewpoint User Guide Overview

Welcome to the *Moab Viewpoint User Guide 10.1.0*

Viewpoint is a web application that, interacting with Moab Workload Manager, enables users to manage jobs and resources without the complexities of maintaining Moab via the command line. Viewpoint uses a customizable portal that enables users to view and configure jobs and to compute node resources, principals, and roles. Viewpoint permissions enable system administrators to specify which pages, tools, and settings certain users or groups are permitted to use, manage, and view.

This guide is intended for system administrators *and* users. This guide is broken into functional chapters to help you quickly navigate and use Viewpoint.

 This guide contains all functional chapters. The actual functions that are available to you will vary depending on the rights and privileges associated with your user profile.

In this guide:

- [Chapter 1: Viewpoint Configuration](#) – Provides the necessary information for you to set up and configure your Viewpoint portal.
- [Chapter 2: Viewpoint Basics](#) – Gives an overview of the Viewpoint portal, including logging in / signing out and general navigation information.
- [Chapter 3: Viewpoint Workload Overview](#) – Gives an overview of the **Workload** page and provides information on viewing and managing workloads.
- [Chapter 4: Application Templates](#) – Gives an overview of the **Application Templates** page and provides information on managing the application templates that are used to define job settings and options available to users when creating jobs.
- [Chapter 5: Nodes](#) – Gives an overview of the **Nodes** page and provides information on viewing and managing nodes for your workload.
- [Chapter 6: File Manager](#) – Gives an overview of the **File Manager** page and provides information on using the RFS for file management.
- [Chapter 7: Reporting](#) – Gives an overview of the **Reporting** page and provides information on creating and generating workload reports and dashboards.

Chapter 1: Viewpoint Configuration

Before you can run Viewpoint, several setup and configuration procedures are required.

1. Initial setup and configuration procedures crucial to the functionality of Viewpoint; performed when you first installed and configured Viewpoint. See 'Installing Moab Viewpoint' in the *Moab HPC Suite Installation and Configuration Guide*.
2. Initial setup and configuration of Nitro and Nitro Web Services (if part of your system configuration). See 'Nitro Integration' in the *Moab HPC Suite Installation and Configuration Guide*.

Once the initial setup and configuration steps have been completed, Viewpoint provides a **Configuration** page to complete the setup and configuration of your Viewpoint portal. See [1.1 Configuration Page](#) for more information.

In this chapter:

- [1.1 Configuration Page](#)
- [1.2 Basic Configuration Page](#)
- [1.3 File Manager Configuration Page](#)
- [1.4 About Roles](#)
- [1.5 About Principals](#)
- [1.6 Nitro Services Configuration Page](#)
- [1.7 Reporting Configuration Page](#)
- [1.8 Application Templates Configuration Page](#)
- [1.9 Licensed Features Page](#)
- [1.10 Additional Configuration](#)

1.1 Configuration Page



Only privileged users can see the **Configuration** page. In addition, the user's credentials determine which configuration functions are available.

The **Configuration** page is for performing administrative functions for Viewpoint. This topic describes the **Configuration** page information after Viewpoint has been installed or upgraded. To access this page, click **Configuration** in the menu bar. You can also click  next to where you sign out.

The **Configuration** page has these functional pages:

- **Basic Configuration** – This is the default view when you access the **Configuration** page. This page is primarily used only when installing or upgrading Viewpoint. See 'Installing Moab Viewpoint' or 'Upgrading Moab Viewpoint (RPM)' in the *Moab HPC Suite Installation and Configuration Guide* for more information. However, you can reset the default roles using this page. See [1.4.7 Resetting Default Roles](#) for more information. See [1.2 Basic Configuration Page](#) for more information about this page.
- **File Manager Configuration** – Available when you click `File Manager` from the left pane. This page is for configuring servers and paths available in the File Manager. See [1.3 File Manager Configuration Page](#) for more information about this page.
- **Roles** – Available when you click `Roles` from the left pane. This page is for managing roles and role permissions. See [1.4.1 Role Management Page](#) for more information about this page.
- **Principals** – Available when you click `Principals` from the left pane. This page is for assigning users, groups, or OUs to roles. See [1.5.1 Principal Management Page](#) for more information about this page.
- **Nitro Services** – Available when your system includes Nitro Web Services. Click `Nitro Services` from the left pane to view this page. This page is primarily used only when installing and configuring Nitro Web Services. See 'Installing Nitro Web Services' (manual install method) or 'Installing Nitro Web Services' (RPM install method) in the *Moab HPC Suite Installation and Configuration Guide* for more information. See [1.6 Nitro Services Configuration Page](#) for more information about this page.
- **Reporting Configuration** – Available when you click `Reporting` from the left pane. This page is for configuring the reporting service. See [1.7 Reporting Configuration Page](#) for more information.
- **Application Templates** – Available when you click `Application Templates` from the left pane. This page is for importing and exporting application templates for creating jobs. See [1.8 Application Templates Configuration Page](#) for more information.
- **Licensed Features** – Available when you click `Licensed Features` from the left pane. This page is for viewing the features available on your Moab HPC Suite license. See [1.9 Licensed Features Page](#) for more information about this page.

Related Topics

- [1.2 Basic Configuration Page](#)
- [1.3 File Manager Configuration Page](#)
- [1.4.1 Role Management Page](#)
- [1.5.1 Principal Management Page](#)
-
- [1.6 Nitro Services Configuration Page](#)
- [1.7 Reporting Configuration Page](#)
- [1.8 Application Templates Configuration Page](#)
- [1.9 Licensed Features Page](#)

1.2 Basic Configuration Page

This topic provides an example of the **Basic Configuration** page and describes its layout and available information.

 This page is primarily used only after Viewpoint is installed or upgraded. This page also lets you, at any time, reset the default roles.

 Only Viewpoint admin users (typically moab-admin and viewpoint-admin) can configure Viewpoint's connection to MWS.

In this section:

- [1.2.1 Page Example](#)
- [1.2.2 Available Fields](#)
- [1.2.3 Page Actions](#)

1.2.1 Page Example

To access this page, click `Configuration` from the menu. This is an example of the **Basic Configuration** page:

HOME

WORKLOAD

TEMPLATES

NODES

SESSIONS

CONFIGURATION

Basic Configuration

File Manager Configuration

Roles

Principals

Remote Visualization Services

Nitro Services

Reporting Configuration

Application Templates

Licensed Features

Basic Configuration

MWS Configuration

Server

http://10.2.185.160:8080

Username

moab-admin

Password

.....

Path

/mws/

Client Id

viewpoint

Client Secret

.....

☐ Reset Permissions

Misc Options

Node Names to Ignore

DEFAULT,GLOBAL

☒ Use Google Analytics to help improve this product

TEST

SAVE

Viewpoint Build Information

Version

10.1

Revision

fc977a87228f372dfa3f0ef4a94f3bd7b4a75b4

Branch

remotes/origin/9.1.x

Build Date

2024-02-02 19:33:38 UTC

1.2.2 Available Fields

This table describes the fields on the **Basic Configuration** page:

Field	Description
MWS Configuration	
Server	The URL for MWS on the Moab Server Host. For example: https://server:8080. If your configuration uses a secure the connection between Viewpoint and MWS, the URL must contain 'https' and the secure port. See 1.10.1 Securing the Connection between Viewpoint and MWS for more information.

Field	Description
Username	Name of the admin user (for example, 'moab-admin'). This is the user who is given MWS access and access to all Viewpoint pages as the default. However, this user is typically not a LDAP/PAM user and does not have operating system permissions (like creating application templates). This user can assign users to roles, including the HPCAdmin role (for LDAP/PAM users). This is the 'auth.defaultUser.username' specified when MWS Server was installed. This information is stored in the <code>/opt/mws/etc/mws-config.groovy</code> file.
Password	Password authentication for the admin user. This is the 'auth.defaultUser.password' specified when MWS Server was installed. This information is stored in the <code>/opt/mws/etc/mws-config.groovy</code> file.
Path	Path prefix of the Moab Web Services URL. This will almost always be '/mws/'.
Client ID	ID used to authorize Viewpoint as a client in MWS. This is the 'OAuth clientId' specified when Viewpoint was installed. This information is stored in the <code>/opt/mws/etc/mws-config.groovy</code> file.
Client Secret	Permission (secret) used to authorize Viewpoint as client in MWS. This is the 'OAuth clientSecret' specified when Viewpoint was installed. This information is stored in the <code>/opt/mws/etc/mws-config.groovy</code> file.
Reset Permissions	Resets the default roles (HPCAdmin, HPCUser, NitroAdmin, and NitroUser) back to their default settings. See 1.4.7 Resetting Default Roles for more information about this check box.
Misc Options	
Node Names to Ignore	Names of nodes for which you want to be ignored when submitting jobs. Separate names with a comma. For example, to prevent jobs from accessing the DEFAULT and GLOBAL nodes, type 'DEFAULT,GLOBAL'.
Use Google Analytics to help improve this product	Indicates whether you want to track usage through Google Analytics.

1.2.3 Page Actions

These buttons let you perform actions on this page:

- **TEST** - Confirms the settings are correct.
- **SAVE** - Submits your settings.

Related Topics

- [1.1 Configuration Page](#)
- [1.3 File Manager Configuration Page](#)

1.3 File Manager Configuration Page

To access this page, click **Configuration** in the menu bar and then click **File Manager** in the left pane.

This topic provides an example of the **File Manager** page and describes its layout and available information.

In this section:

- [1.3.1 Page Example](#)
- [1.3.2 Available Fields](#)
- [1.3.3 Page Actions](#)

1.3.1 Page Example

This is an example of the **File Manager Configuration** page:

CONFIGURATION

Basic Configuration

File Manager Configuration

Licensed Features

File Manager Configuration

Server URL

https://127.0.0.1:8443

Server Verify SSL

☒

SSL Certificate File

/opt/viewpoint/lib/viewpoint/webdav_client/client-cer

SSL Certificate Key

/opt/viewpoint/lib/viewpoint/webdav_client/client-key

CA Bundle File

/opt/viewpoint/lib/viewpoint/webdav_client/ca-cert.p

Server Root Path

/

Accessible Roots

/home/tmp

Maximum Upload
Size(bytes)

-1

TEST

SAVE

1.3.2 Available Fields

This table describes the fields on the **File Manager Configuration** page:

Field	Description
Server URL	The name of the Moab Server host on which you installed the File Manager Service and the port number for the File Manager Service (for example, 'https://server:8001').
Server Verify SSL	When enabled: - The client SSL certificate will be verified. - Viewpoint will use the given certificate when connecting to File Manager Service.
SSL Certificate File	The location of the SSL certificate file on the Viewpoint Server. Usually, /opt/viewpoint/lib/viewpoint/webdav_client/client-cert.pem.
SSL	The location of the SSL certificate key on the Viewpoint Server. Usually,

Field	Description
Certificate Key	/opt/viewpoint/lib/viewpoint/webdav_client/client-key.pem.
CA Bundle File	The location of the CA bundle file on the Viewpoint Server. Usually, /opt/viewpoint/lib/viewpoint/webdav_client/ca-cert.pem.
Server Root Path	The root URL path where File Manager Service publishes its API (usually it is simply /).
Accessible Roots	The root folders that users can access from the File Manager page. This can be used to limit users' access to certain directories, without giving them access to the / folder on the remote file system (RFS). Separate root folders with a colon (for example, /home:/usr/share/groups). For example, if you define /home and /usr/share/groups as accessible roots, although users will be able to see a tree similar to the following, the users will not be able to see (access) anything inside /usr other than 'share' and anything inside 'share' other than 'groups'. <pre> - /home/ - user1/ - user2/ - youruser/ - /usr/ - share/ - groups/ </pre>
Maximum Upload Size (bytes)	Total amount of data that can be uploaded in a single file. A value of '-1' means unlimited.

1.3.3 Page Actions

These buttons let you perform actions on this page:

- **TEST** - Confirms the settings are correct.
- **SAVE** - Submits your settings.

Related Topics

- [Chapter 6: File Manager](#)

1.4 About Roles

A role in Viewpoint is simply a collection of permissions. Once permissions are assigned, a role is assigned to users or user groups in a principal. This means that each user in the principal will be bound by the role permissions.

This section describes the features and functions available to manage roles.

In this section:

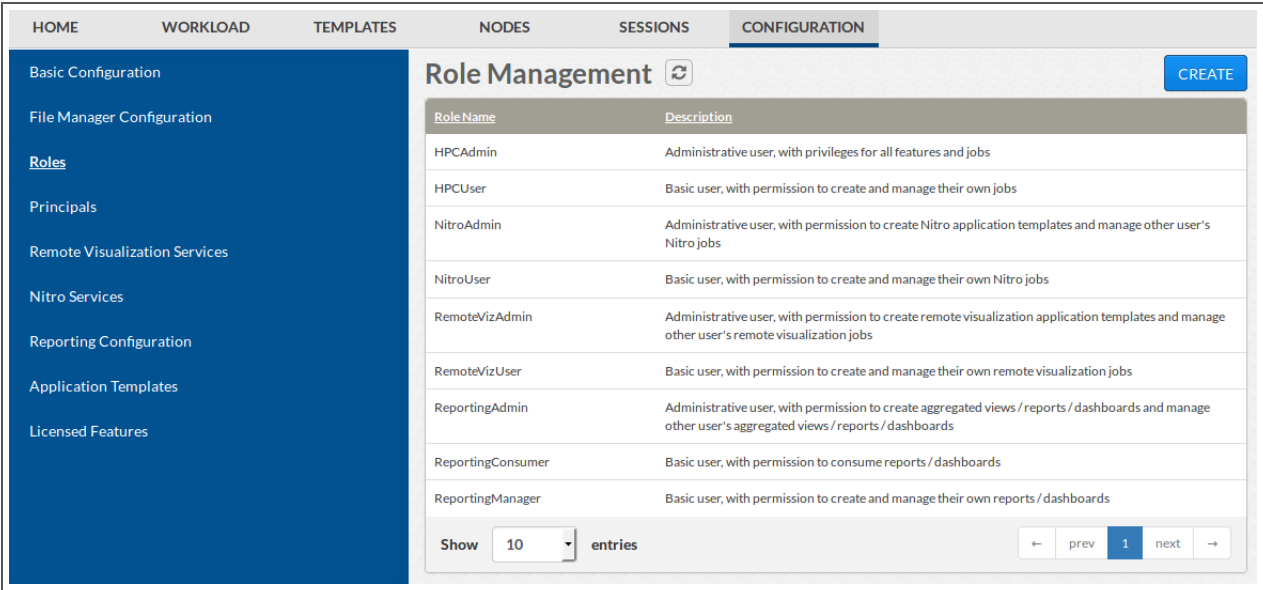
- [1.4.1 Role Management Page](#)
- [1.4.2 Roles Page](#)
- [1.4.3 Role Permissions](#)
- [1.4.4 Default Roles](#)
- [1.4.5 Creating or Editing Roles](#)
- [1.4.6 Deleting Roles](#)
- [1.4.7 Resetting Default Roles](#)
- [1.4.8 Restoring Default Roles](#)

1.4.1 Role Management Page

The **Role Management** page displays the default and custom roles available for your Viewpoint configuration. Using this page, you can create, edit, and delete roles. Click  at any time to refresh the page display.

To access this page, click `Configuration` in the menu bar and then click `Roles` from the left pane.

This is an example of the **Role Management** page:



Related Topics

- [1.4.5 Creating or Editing Roles](#)
- [1.4.6 Deleting Roles](#)

1.4.2 Roles Page

The **Roles** page is for managing the permissions for the specified role.

To access this page, click `Configuration` in the menu bar, click `Roles` in the left pane, and then click either `Create` to add a new role *or* click the name of the role you want to edit.

i The **Roles** page will display `Create Role` or `Update Role` depending on whether you are creating or editing, respectively.

This topic provides an example of the **Roles** page and describes its layout and available information.

In this topic:

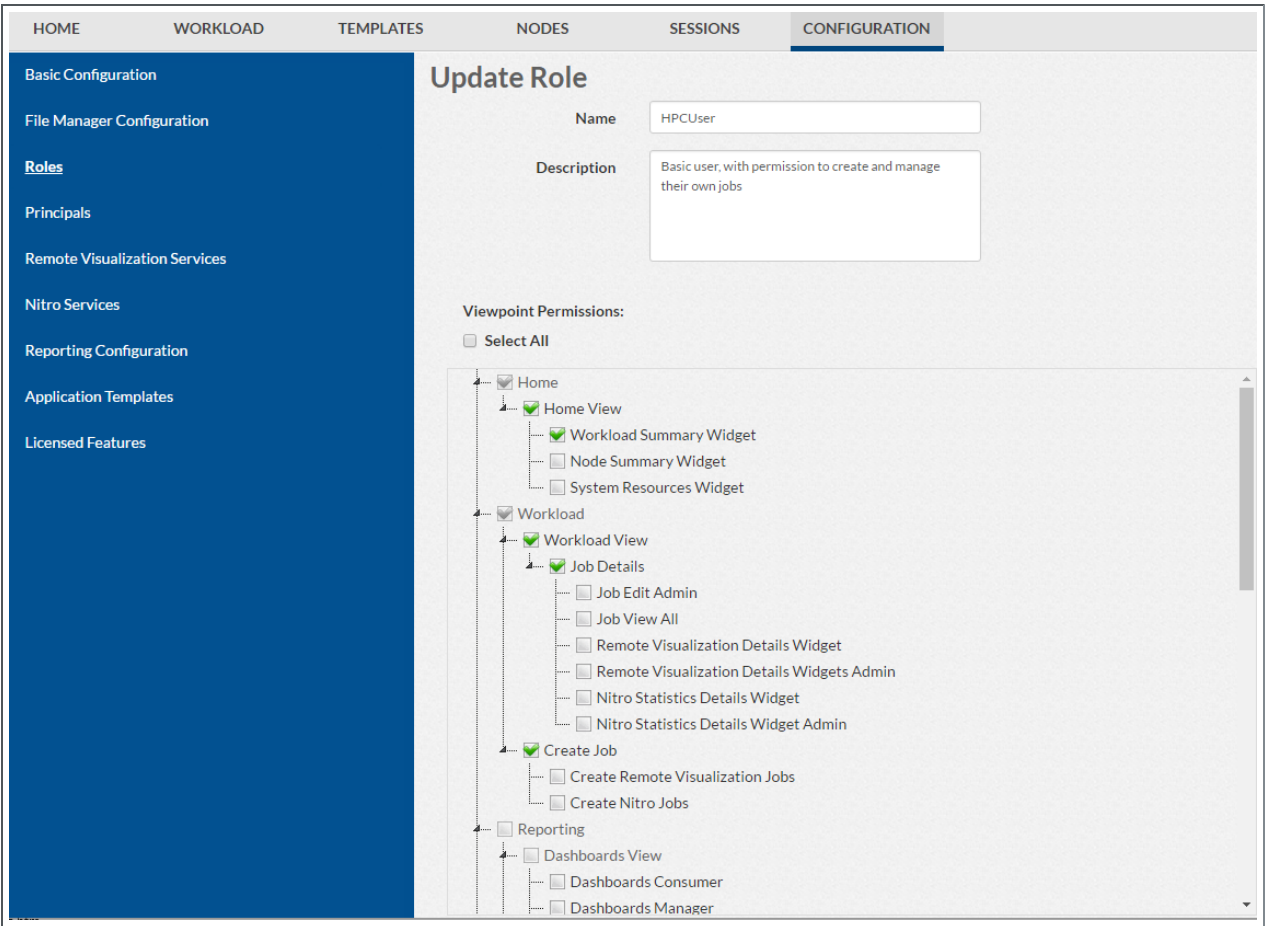
- 1.4.2.A Page Example

1.4.2.B Available Fields

1.4.2.C Page Actions

1.4.2.A Page Example

This is an example of the **Roles** page:



1.4.2.B Available Fields

This table identifies fields in the **Roles** page:

Field	Description
Name	Lets you specify the name of the role. The name you specify appears in the list of roles on the Role Management page and in the list of role options when you edit a principal. Role names are case sensitive and can include letters, numbers, dashes (-), periods (.), and underscores (_).  You cannot modify the role name after creating a role.
Description	Lets you specify/modify the text description of the role. This description appears in the list of roles on the Role Management page.
Viewpoint Permissions	These fields let you specify the Viewpoint page permissions you want to set for the role. See 1.4.3 Role Permissions for more information.

1.4.2.C Page Actions

These buttons let you perform actions on this page:

- **CANCEL** – Closes the page without saving any changes.
- **DONE** – Saves the changes and closes the page.
- **APPLY** – Saves the changes but does not close the page.
- **RESET** – Displayed only when editing one of the default roles (HPCAdmin, HPCUser, NitroAdmin, and NitroUser). Resets the role back to the default settings and stays on the page. This does *not* remove principals from the role. The **Reset Permissions** check box on the **Basic Configuration** page will reset the role back to the default settings and remove all principals assigned to the role. See [1.4.7 Resetting Default Roles](#) for more information.

Related Topics

- [1.4.1 Role Management Page](#)
- [1.4.3 Role Permissions](#)
- [1.4.5 Creating or Editing Roles](#)

1.4.3 Role Permissions

Viewpoint organizes roles based on **Viewpoint** pages, as grouped by the Menu bar. For example, the Home View permission enables a user to access the Viewpoint **Home** page. Other permissions enable the user to access various widgets on the **Home** page. This topic describes the different permissions you can manage for a role.

In this topic:

[1.4.3.A About Permissions](#)

[1.4.3.B Viewpoint Permissions](#)

1.4.3.A About Permissions

Viewpoint uses permissions to enable you to control user access. For example, you can grant a user the ability to see a feature but not edit it. The Viewpoint permissions control access to the various pages and specific functions on that page.

Some permissions are dependent on other permissions. For example, the Job Edit Admin permission enables you to manage jobs created by other users. When you grant this permission, Viewpoint also automatically grants the Job Details permission, which enables you to view details for your own jobs, and the Workload View permission, which enables you to access the **Workload** page.

1.4.3.B Viewpoint Permissions

This table describes each of the Viewpoint permissions. For ease of use, the permissions are listed in this topic in alphabetical order.

Home Permissions

Permission	Description
Home View	Enables you to view the Home page.
Node Summary Widget	Enables you to view the node summary widget, which provides a graphical overview of the total nodes within your Viewpoint configuration and their status.
System Resources Widget	Enables you to view the global system resources widget, which provides a graphical ratio of resources dedicated to jobs compared to total resources. The graphical result is displayed based activity within the last 24 hours.

Permission	Description
Workload Summary Widget	Enables you to view the workload summary widget, which provides a graphical overview of the total jobs within your Viewpoint configuration and their status.

Workload Permissions

Permission	Description
Create Job	Enables you to access the Create Job page and to create jobs.
Create Nitro Jobs	Enables you to create Nitro jobs, if the Nitro feature is licensed.
Job Details	Enables you to access the Job Details page to view job details for your own jobs (or others in your principal). The Job Edit Admin permission is required to actually change job information.
Job Details - Priority Analysis	Enables you to see or modify the priority of a job while the job is waiting to be scheduled. See 3.3.1 Priority for more information about the priority information for a job. Also requires the Job Details and Job Edit Admin permissions.
Job Details - Scheduling Analysis	Enables you to view the available nodes for job scheduling. When applied, the More Information button appears on the Job Details page. Click this button to view the <code>Scheduling Analysis</code> pop-up window. See 3.2.4 Scheduler Analysis for more information on the window. Also requires the Job Details and Job Edit-admin permissions.
Job Edit Admin	Enables you to edit job information for any job, not just the jobs you (or others in your principal) submitted. Also requires the Job Details permission.
Job View All	Enables you to see all jobs in the workload, not just the jobs you (or others in your principal) submitted.
Nitro Statistics Details Widget	Enables you to the Nitro Details section to view job statistics for your Nitro Jobs. Without this permission, Nitro jobs will not display statistics when viewing job details.
Nitro Statistics Details	Enables access to the Nitro Details section to view job statistics for other users' Nitro jobs.

Permission	Description
Widget Admin	
Workload View	Enables you to view the Workload page. Admins will see all jobs; non-admins will only see their jobs, or the jobs within their principal (user group).

Reporting Permissions

Permission	Description
Aggregated Views View	Enables you to view the Aggregated Views page.
Aggregated Views Admin	Enables you to create aggregated views and administer other users' aggregated views.
Aggregated Views Consumer	Enables you to access the Aggregated Views page and view aggregated view data.
Aggregated Views Manager	Enables you to create aggregated views and administer your own aggregated views.
Dashboards View	Enables you to view the Dashboards page.
Dashboards Admin	Enables you to create dashboards and administer other users' dashboards.
Dashboards Consumer	Enables you to access the Dashboards page and run dashboards.
Dashboards Manager	Enables you to create dashboards and administer your own dashboards.
Reports View	Enables you to view the Reports page.
Reports Admin	Enables you to create reports and administer other users' reports.
Reports Consumer	Enables you to access the Reports page and run reports.
Reports Manager	Enables you to create reports and administer your own reports.

Nodes Permissions

Permission	Description
Nodes View	Enables you to view the Nodes page.

Templates Permissions

Permission	Description
Nitro Templates	Enables you to manage Nitro application templates.
Templates Admin	Enables you to manage other users' application templates.
Templates View	Enables you to manage your own application templates.

File Manager Permissions

Permission	Description
File Manager View	Enables you to access the File Manager page.

Configuration Permissions

Permission	Description
Application Templates	Enables you to access the Application Templates tab on the Configuration to view, deploy, export, and restore the provided application templates.
Basic Configuration	Enables you to access the Basic Configuration tab on the Configuration page.
File Manager Configuration	Enables you to access the File Manager tab on the Configuration page to upload or download files.
Licensed Features	Enables you to access the Licensed Features tab on the Configuration page to view license information.
Nitro Services	Enables you to access the Nitro Services tab on the Configuration page to configure Nitro services.
Principals	Enables you to access the Principals tab of the Configuration page to view

Permission	Description
	and manage roles and principals. This permission should only be set for administrators.
Reporting Configuration	Enables you to access the Reporting Configuration tab on the Configuration page to configure Reporting Web Services.
Roles	Enables you to access the Roles tab on the Configuration page to view and manage roles and permissions. This permission should only be set for administrators.

Related Topics

- [1.4.2 Roles Page](#)

1.4.4 Default Roles

Viewpoint is delivered with these default roles:

- **HPCAdmin** – Global administrative role that grants users all Viewpoint permissions.
- **HPCUser** – Global user role that enables permissions for users to perform non-administrative workload tasks.
- **NitroAdmin** – Administrative user role with permissions to create Nitro application templates and manage other users' Nitro jobs.
- **NitroUser** – Basic user role with permission to create and manage their own Nitro jobs.

If a Reporting license is installed, the following reporting roles are included in the base roles:

- **Reporting Admin** – Administrative user role with permissions to create aggregated views, reports, and dashboards and manage aggregated views, reports, and dashboards created by other users.
- **Reporting Manager** – Basic user with permissions to create and manage reports and dashboards.
- **Reporting Consumer** – Basic user, with permissions to use reports and dashboards.

i Viewpoint lets you reset permissions for the default roles and restore the default roles if deleted. See [1.4.7 Resetting Default Roles](#) and [1.4.8 Restoring Default Roles](#), respectively.

Related Topics

- [1.4.7 Resetting Default Roles](#)
- [1.4.8 Restoring Default Roles](#)

1.4.5 Creating or Editing Roles

Use the **Role Management** page to create new roles or edit existing roles and their permissions. The only user that is allowed to modify roles is the special 'moab-admin' user set up in the MWS configuration file (`/opt/mws/etc/mws-config.groovy`). No other users are allowed to modify roles, including users with administrative permissions.

To do this, follow these steps.

1. Access the **Role Management** page (click `Configuration` in the menu bar, then click `Roles` in the left pane).
2. Click `Create` to add a new role *or* click the name of the role you want to edit. The **Roles** page displays.
3. If you are creating a role, enter the name of the role and the role description.
4. If you are editing an existing role, change the role name and/or description, if desired.
5. Select and/or clear permissions for the role's purpose and use. See [1.4.3 Role Permissions](#) for permission descriptions.
6. When finished, click `DONE` to save your changes and close the page; otherwise, click `CANCEL` to discard the changes and close the page. Clicking `APPLY` will save your changes, but does not close the page.

i If you are editing a default role (HPCAdmin, HPCUser, NitroAdmin, and NitroUser), the `Reset` button displays. Click this button to reset the role back to the default settings. This will not close the page. In addition, this will *not* remove principals from the role. The `Reset Permissions` check box on the **Basic Configuration** page will reset the role back to the default settings and remove all principals assigned to the role. See [1.4.7 Resetting Default Roles](#) for more information.

Related Topics

- [1.4.2 Roles Page](#)
- [1.4.3 Role Permissions](#)

1.4.6 Deleting Roles

Use the **Role Management** page to delete existing roles.

 You cannot delete roles if the roles have been selected in principals.

To delete roles, do the following.

1. Access the **Role Management** page (click `Configuration` in the menu bar, then click `Roles` in the left pane).
2. Hover your pointer over the name of the role you want to remove, click the menu icon  that appears, and click `Delete`.
3. When the window appears asking you to confirm the delete, click `OK` to delete the role; otherwise, click `Cancel`.

 If you removed a default role (HPCAdmin, HPCUser, NitroAdmin, and NitroUser), a **RECREATE BASE ROLES** button appears on this page. You can click this button to restore the default role (with its default permissions); however, this action also affects the other default roles. This action resets the permissions for all default roles (but not the assigned principals for the existing roles).

Related Topics

- [1.4.1 Role Management Page](#)

1.4.7 Resetting Default Roles

Viewpoint comes configured with several default roles (HPCAdmin, HPCUser, NitroAdmin, and NitroUser) and offers the ability to reset these roles back to their original default settings at any time.

This topic provides information on the different options available to reset the default roles.

In this topic:

[1.4.7.A Reset Permissions and Remove Principals](#)

[1.4.7.B Reset Permissions Only](#)

1.4.7.A Reset Permissions and Remove Principals

To do this, follow these steps.

1. Log in to the Viewpoint portal. This can be the moab-admin user or any user granted permission to reset roles from the **Roles** page.
2. Click `Configuration` in the menu bar. The **Basic Configuration** page displays.
3. In the MWS Configuration area, click the `Reset Permissions` check box. A warning appears, informing you that this will reset the defaults.
4. Click `Save`. Once the permissions have finished resetting, you will be logged out of the Viewpoint portal and will need to log in again.
5. Go to the **Principals** page and reassign the principals to the default roles, as needed.

1.4.7.B Reset Permissions Only

To do this, follow these steps.

1. Log in to the Viewpoint portal. This can be the moab-admin user or any user granted permission to reset roles from the **Roles** page.
2. Access the **Role Management** page (click `Configuration` in the menu bar, then click `Roles` in the left pane).
3. Click the name of the default role for which you want to reset permissions. The **Roles** page displays.
4. Click `RESET` at the bottom of the page.
5. When a message appears asking you to confirm the reset, click `OK`; otherwise, click `Cancel`.

Related Topics

- [1.4.4 Default Roles](#)
- [1.4.8 Restoring Default Roles](#)

1.4.8 Restoring Default Roles

In addition to being able to reset the default permissions for the default roles (HPCAdmin, HPCUser, NitroAdmin, and NitroUser), Viewpoint lets you restore the role if it was deleted. Restoring a default role, automatically restores it with the default permissions.

To do this, follow these steps.

1. Access the **Role Management** page (click `Configuration` in the menu bar, then click `Roles` from the left pane).



2. Click  (button does not appear unless one of the default roles has been deleted).

Related Topics

- [1.4.4 Default Roles](#)
- [1.4.7 Resetting Default Roles](#)

1.5 About Principals

Principals is the term used to describe the assignment of users to roles. Users, groups, or OUs are assigned to one or more roles to create a principal.

i LDAP or PAM must be configured in MWS. See 'LDAP Configuration Using /opt/mws/etc/mws-config.groovy or PAM (Pluggable Authentication Module) Configuration Using /opt/mws/etc/mws-config.groovy' in the *Moab Web Services Administrator Guide* for details.

This section describes the features and functions available to manage principals.

In this section:

- [1.5.1 Principal Management Page](#)
- [1.5.2 Principals Page](#)
- [1.5.3 Edit Users/Groups Pop-up](#)

- [1.5.4 Creating or Editing Principals](#)
- [1.5.5 Deleting Principals](#)

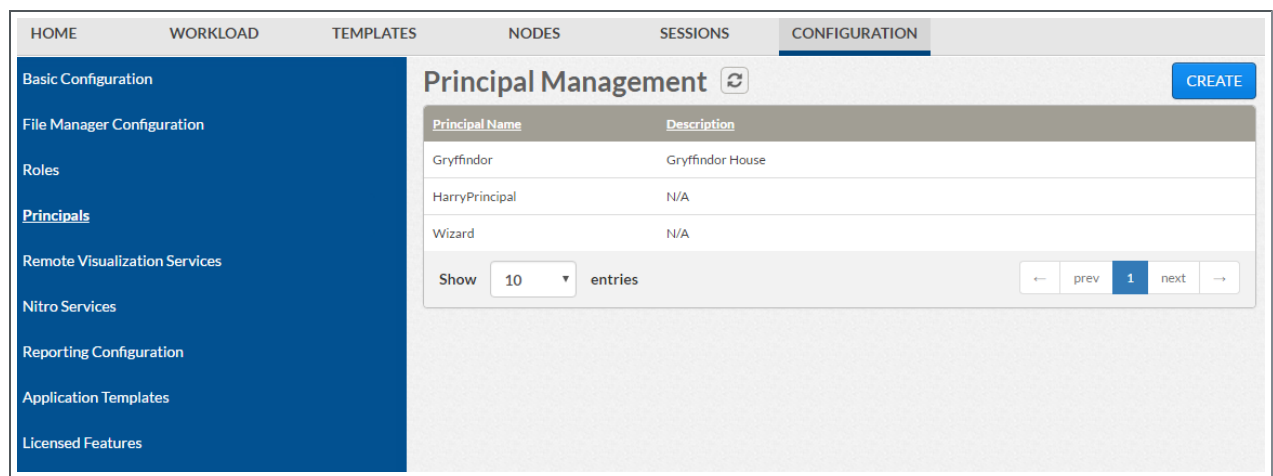
1.5.1 Principal Management Page

The **Principal Management** page displays the defined principals for your Viewpoint configuration. Using this page, you can create, edit, and delete principals.

This page also provides access to the **Principals** page to specify the users, groups, *or* OUs and their applicable roles for a principal configuration.

To access this page, click **Configuration** in the menu bar and then click **Principals** in the left pane.

This is an example of the **Principal Management** page:



Click  at any time to refresh the page display.

Related Topics

- [1.5.4 Creating or Editing Principals](#)
- [1.5.5 Deleting Principals](#)

1.5.2 Principals Page

The **Principals** page is for specifying the users, groups, *or* organizational units and their applicable roles for a principal configuration.

To access this page click `Configuration` in the menu bar, click `Principals` in the left pane, and then click either `Create` to add a new principal *or* click  next to the principal you want to edit.

This topic provides an example of the **Principals** page and describes its layout and available information.

In this topic:

- [1.5.2.A Page Example](#)
- [1.5.2.B Available Fields](#)
- [1.5.2.C Page Actions](#)

1.5.2.A Page Example

This is an example of the **Principals** page:

HOMEWORKLOADTEMPLATESNODESSSESSIONSCONFIGURATION

Basic ConfigurationFile Manager ConfigurationRolesPrincipalsRemote Visualization ServicesNitro ServicesReporting ConfigurationApplication TemplatesLicensed Features

Update Principal

A principal's resources and access is based on the role(s) they are granted. Each role has a list of permissions that can be configured in the Roles tab.

NameHarryPrincipal

Description

Roles

☐ HPCAdmin☒ HPCUser☐ NitroAdmin☐ NitroUser☐ RemoteVizAdmin☐ RemoteVizUser☐ ReportingAdmin☐ ReportingConsumer☐ ReportingManager

Users/Groups

Edit

Principal Entity	Type
hpotter	LDAP Username

Cancel

DONE

APPLY

1.5.2.B Available Fields

This table identifies fields in the **Principals** page:

1.5 About Principals

31

Field	Description
Name	Lets you specify the name of the principal. The name you specify appears in the list of principals on the Principal Management page.  You cannot modify the principal name after creating a principal.
Description	(Optional) Lets you specify a text description of the principal.
Roles	Lets you select which roles are assigned to the principal.  Only roles defined for your Viewpoint configuration will appear in the selection list. See 1.4.5 Creating or Editing Roles for details on creating roles.
Principal Entity	Lets you specify an LDAP or PAM entity with this principal.  If this principal entity is listed under an LDAP group or organizational unit, you must provide the entire distinguished name; PAM group names represent the UNIX group on the underlying server. Click  to add or click  to remove entities.
Type	Specifies whether the principal entity is an LDAP username, group, or organizational unit <i>or</i> a PAM username or group.

1.5.2.C Page Actions

These buttons let you perform actions on this page:

- **CANCEL** – Closes the page without saving any changes.
- **DONE** – Saves any changes and closes the page.
- **APPLY** – Saves the changes but does not close the page.

Related Topics

- [1.5.1 Principal Management Page](#)
- [1.5.4 Creating or Editing Principals](#)

1.5.3 Edit Users/Groups Pop-up

In this topic:

[1.5.3.A Page Example](#)

[1.5.3.B Editing Users/Groups](#)

[1.5.3.C Page Actions](#)

1.5.3.A Page Example

This is an example of the `Edit users/groups` pop-up:

Edit users/groups

Principal Entity

Type

hpotter

LDAP Username

×

ou=hogwarts,ou=people,dc=testl

LDAP Group

×

Add Entity

Close

SAVE

1.5.3.B Editing Users/Groups

Use the `Edit users/groups` pop-up to add users or groups to principal assignments.

To do this, follow these steps.

1. Access the `Edit users/groups` pop-up (click `Configuration` in the menu bar, then click `Principals` in the left pane).
2. Click `CREATE` to add a new principal *or* click the name of the principal you want to edit. The **Principals** page displays. See [1.5.2 Principals Page](#) for more information.
3. Click `Edit` under `Users/Groups` to open the `Edit users/groups` pop-up.
4. To *add* a new principal assignment, do the following:
 - a. Click  to add a new line.
 - b. Enter the LDAP group, organizational unit, or username associated with this principal.

 If the entity is an LDAP group or organizational unit, you must provide the entire distinguished name. If the entity is an LDAP user, you can provide just the username.

- c. Select the type that reflects the entity you just entered.
5. To *delete* a principal entity, click  next to the entity you want to remove.
 6. When finished, click `SAVE` to save the changes and close the page; otherwise, click `CLOSE` to discard the changes and close the page.

 `APPLY` will save the changes, but does not close the page.

1.5.3.C Page Actions

These buttons let you perform actions on this page:

- `CLOSE` – Closes the page without saving any changes.
- `SAVE` – Saves the changes and closes the page.

Related Topics

- [1.5.1 Principal Management Page](#)
- [1.5.4 Creating or Editing Principals](#)

1.5.4 Creating or Editing Principals

Use the **Update Principal** or **Create Principal** pages to create new principals or edit existing principals.

To do this, follow these steps.

1. Access the **Update Principal** or **Create Principal** page (click `Configuration` in the menu bar, then click `Principals` in the left pane).
2. Click `CREATE` to add a new principal *or* click the name of the principal you want to edit. The **Principals** page displays. See [1.5.2 Principals Page](#) for more information.
3. If you are creating a principal, enter the name of the principal.
4. Add or modify the principal description if needed.
5. Select and/or clear the roles assigned to this principal.
6. Add or delete users or groups associated with the principal. See [1.5.3 Edit Users/Groups Pop-up](#) for more information.
7. When finished, click `DONE` to save the changes and close the page; otherwise, click `CANCEL` to discard the changes and close the page.

 **APPLY** will save the changes, but does not close the page.

Related Topics

- [1.5.1 Principal Management Page](#)
- [1.5.2 Principals Page](#)
- [1.5.3 Edit Users/Groups Pop-up](#)

1.5.5 Deleting Principals

Use the **Principal Management** page to delete existing principals.

To do this, follow these steps.

1. Access the **Principal Management** page (click `Configuration` in the menu bar, then click `Principals` in the left pane).
2. Hover your pointer over the name of the principal you want to remove, click the menu icon  that appears, and click `Delete`.
3. When the window appears asking you to confirm the delete, click `OK` to delete the principal; otherwise, click `Cancel`.

Related Topics

- [1.5.1 Principal Management Page](#)

1.6 Nitro Services Configuration Page



This topic is provided for reference only, as the actual Nitro Services configuration is set up when installing Nitro Web Services. See 'Installing Nitro Web Services' (manual install method) or 'Installing Nitro Web Services' (RPM install method) in the *Moab HPC Suite Installation and Configuration Guide* for detailed instructions.

Once you have configured Nitro Services, you can view your Nitro job information in the **Job Details** page. See [3.4.1 Nitro Details](#) for more information.

To access this page, click `Configuration` in the menu bar and then click `Nitro Services` in the left pane.

This topic provides an example of the **Nitro Services** page and describes its layout and available information.

In this section:

- [1.6.1 Page Example](#)
- [1.6.2 Available Fields](#)
- [1.6.3 Page Actions](#)

1.6.1 Page Example

This is an example of the **Nitro Services** page:

1.6.2 Available Fields

This table identifies fields in the **Nitro Services** page:

Field	Description
Nitro WS URL	Hostname (or IP address) and port number for the host on which you installed Nitro Web Services. For example, <code>https://<hostname>:9443</code>
Username	Name of the user. This typically <code>nitro-readonly-user</code> .
Password	The user's password.
Trust Self Signed	Indicates whether Nitro Web Services was set up using self-signed certificates.

1.6.3 Page Actions

These buttons let you perform actions on this page:

- **TEST** - Tests the connection to Nitro Web Services.
- **SAVE** - Saves the changes.

1.7 Reporting Configuration Page

Reporting configuration involves establishing a connection with Reporting Web Services (RWS). Once you have configured Reporting, you can use Viewpoint's reporting features to create and display reports, dashboards, and aggregated views.

To access this page, click `Configuration` in the menu bar and then click `Reporting Configuration` in the left pane.

This topic provides an example of the **Reporting Configuration** page and describes its layout and available information.

In this section:

- [1.7.1 Page Example](#)
- [1.7.2 Available Fields](#)
- [1.7.3 Page Actions](#)

1.7.1 Page Example

This is an example of the **Reporting Configuration** page:

Reporting REST Services Configuration

Reporting Service URL

TEST

SAVE

1.7.2 Available Fields

This table describes the fields on the **Reporting Configuration** page:

Field	Description
Reporting Service URL	Hostname (or IP address), port number, and path for the RWS service. For example, <code>https://<server>:8080/rws</code> .

1.7.3 Page Actions

These buttons let you perform actions on this page:

- TEST - Tests the connection to the RWS service.
- SAVE - Saves the changes.

1.8 Application Templates Configuration Page

The **Application Templates Configuration** page is for deploying and exporting application templates. Application templates are used to predefine the job requirements available to users when creating jobs. See [Chapter 4: Application Templates](#) for more information about application templates.

To access this page, click **Configuration** on the menu bar and then click **Application Templates** in the left pane.

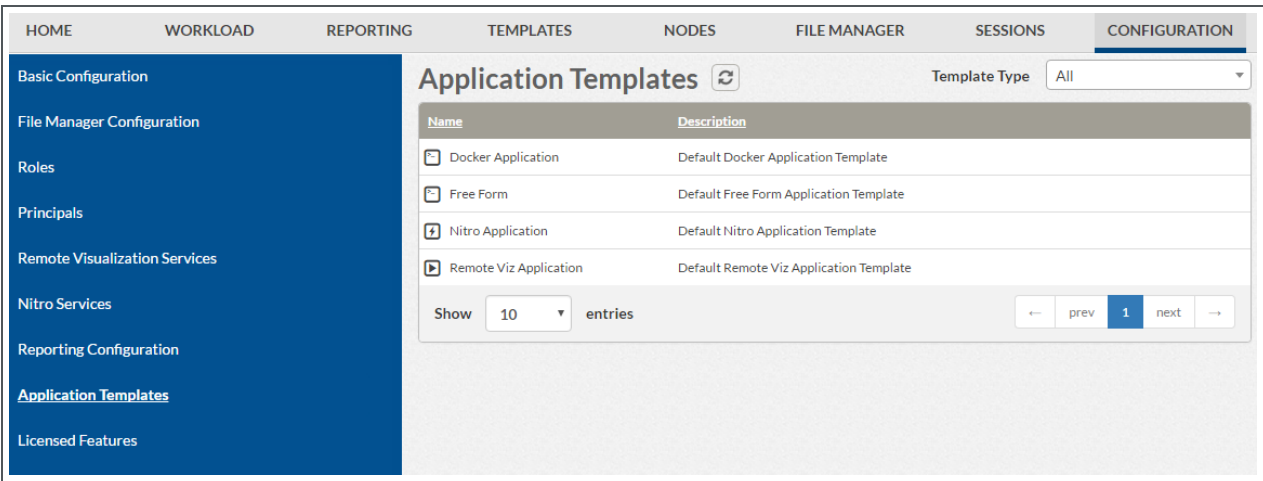
In this section:

[1.8.1 Page Example](#)

[1.8.2 Page Actions](#)

1.8.1 Page Example

This is an example of the **Application Templates Configuration** page:



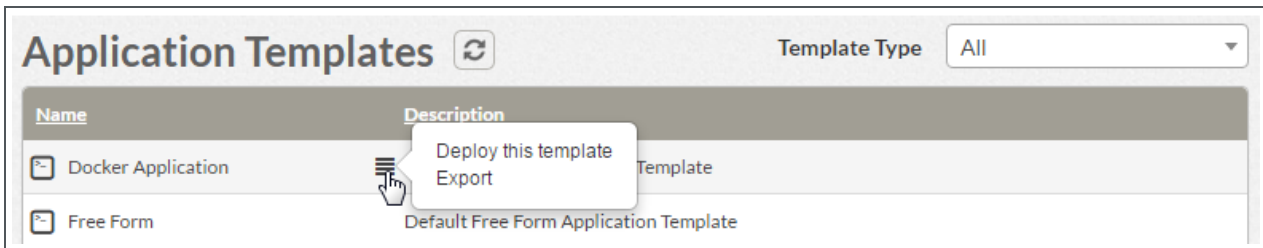
The **Application Templates Configuration** page displays a list of available application templates. Click  at any time to refresh the page display. If you have many application

templates, you can apply a filter to view templates of a specific type by selecting a template type from the `Template Type` drop-down.

Page controls are available at the bottom of the application template list to let you customize how many application templates appear at a time in the list. These controls also include options for moving between pages of listed application template.

1.8.2 Page Actions

As shown in the following image, hovering your pointer to the left of a template description displays a menu of operations you can perform on a template:



Select *Deploy* to make a template available for editing, and *Export* to create a template file that can be used to copy a template to another Viewpoint server. You can use *Deploy* to restore one of the provided templates that has been deleted.

Related Topics

- [Chapter 4: Application Templates](#)

1.9 Licensed Features Page



Instructions on how to obtain and install the licenses are provided during the Viewpoint install or upgrade process. See 'Installing Moab Viewpoint' or 'Upgrading Moab Viewpoint (RPM)' in the *Moab HPC Suite Installation and Configuration Guide* for detailed instructions.

The **Licensed Features** page shows all of the licensed Viewpoint and Moab features for your system configuration.

To access this page, click `Configuration` in the menu bar and then click `Licensed Features` in the left pane.

The **Licensed Features** page has two tab options:

- **Viewpoint License** – This is the default view when you access the **Licensed Features** page. This tab displays a visual listing of the Viewpoint license file configuration information.
- **Moab License** – This tab displays a visual listing of the Moab license file. This license file is populated with a valid connection to MWS.

This topic provides an example of the **Viewpoint License** tab and the **Moab License** tab and describes the layout and available information in the tab.

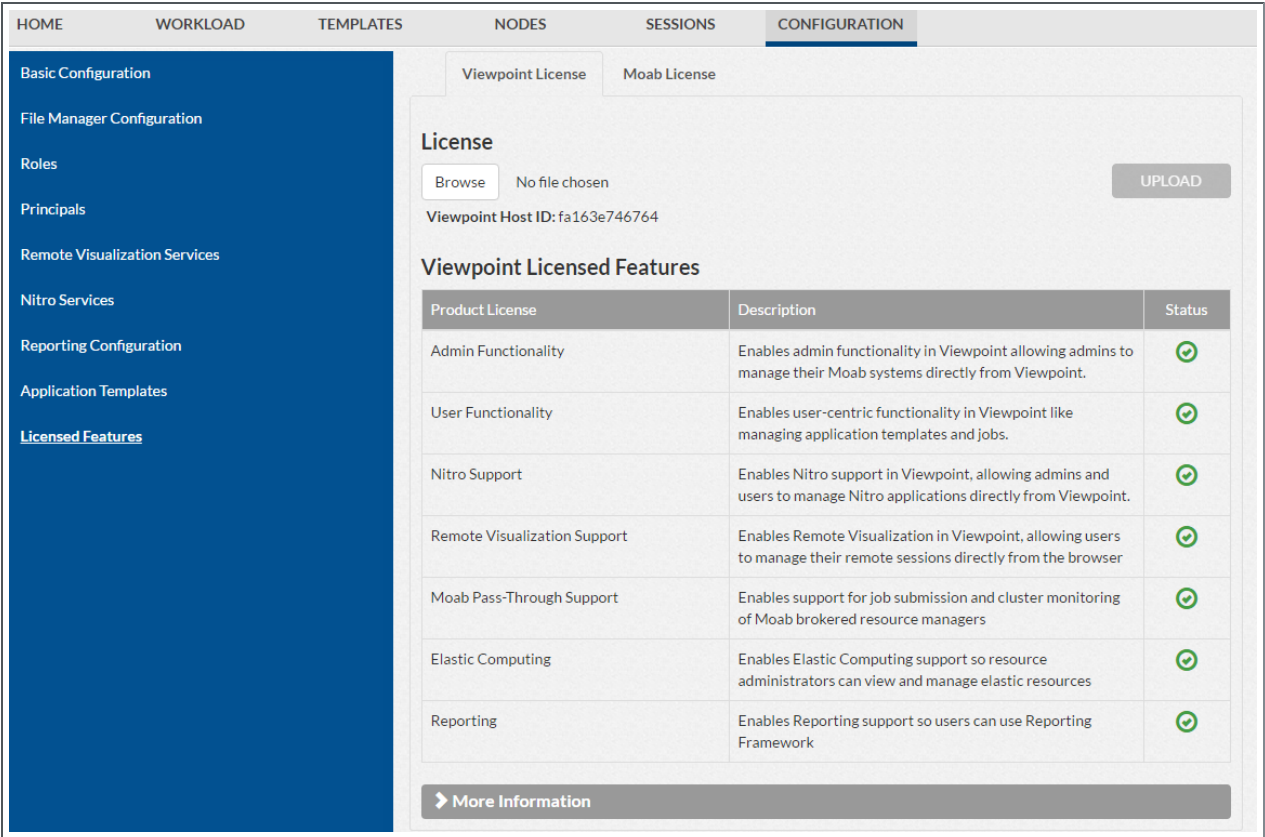
In this section:

[1.9.1 Viewpoint License Tab](#)

[1.9.2 Moab License Tab](#)

1.9.1 Viewpoint License Tab

This is an example of the **Viewpoint License** tab:



This tab provides a visual representation of the licensed features for your configuration. A green check mark in a circle indicates that feature is licensed; whereas, a red x in a circle indicates a feature is not licensed.

1.9.2 Moab License Tab

This is an example of the **Moab License** tab:

HOMEWORKLOADTEMPLATESNODESSSESSIONSCONFIGURATION

Basic ConfigurationFile Manager ConfigurationRolesPrincipalsRemote Visualization ServicesNitro ServicesReporting ConfigurationApplication TemplatesLicensed Features

Viewpoint LicenseMoab License

Expiration Date2024-07-15 21:14:54Licensed Host Namemba-1-12-17Licensed Processors2000000Moab License File/opt/moab/etc/moab.lic

Moab Licensed Features

Product License	Description	Status
Accounting	Accounting management for usage tracking and charging	✔
Adaptive HPC	Provisioning of Operating Systems	✘
Advanced Resource Management	Policies and capabilities that control resources	✔
Elastic Computing 	Elastically add to or remove resources from a cluster / dynamically provision the OS	✔
Grid	Unify management of multiple clusters	✔
Group Sharing	Policy management for groups to use and share the cluster	✔
Passthrough	Monitor and pass-through workloads to external schedulers.	✘
Power Management	Workload-aware power optimization management	✔
Workflow	Automate both end-to-end workload and system processes	✔

More information

This tab provides a visual representation of the licensed features for your configuration. A green check mark in a circle indicates that feature is licensed; whereas, a red x in a circle indicates a feature is not licensed.

You can expand the `More Information` section to view any additional information available about the licensed features.

Related Topics

- [1.1 Configuration Page](#)
-

1.10 Additional Configuration

In this section:

[1.10.1 Securing the Connection between Viewpoint and MWS](#)

[1.10.2 Configuring Viewpoint to Use SSL](#)

[1.10.3 Using Viewpoint for Slurm](#)

1.10.1 Securing the Connection between Viewpoint and MWS

Adaptive Computing strongly recommends using Viewpoint on a secure channel (SSL). See [1.10.2 Configuring Viewpoint to Use SSL](#).

Optionally, and depending on your system requirements, you can secure the connection between Viewpoint and MWS.

This topic explains how to secure the connection between Viewpoint and MWS.

i The steps in this topic must be performed before you set up the connection to MWS.

Secure the Connection between Viewpoint and MWS

To do this, follow these steps.

1. Configure the MWS Server for HTTPS. See 'Securing Client Connections to MWS' in the *Moab Web Services Administrator Guide* for more information.
2. Import the MWS Server Certificate.

i If the MWS server is using a certificate signed by a certificate authority, skip this step.

Import the MWS server certificate by running the following command on the Viewpoint server:

```
[root]# openssl s_client -showcerts -connect <hostname>:<secure_port> < /dev/null
2> /dev/null |
    sed -n -e '/-BEGIN CERTIFICATE-/,/-END CERTIFICATE-/p' \
    >> $(python -m requests.certs)
```

Where `<hostname>` is the MWS host name and `<secure_port>` is the secured port number defined in the certificate.

3. Proceed with instructions to set up the connection to MWS (see [1.2 Basic Configuration Page](#)), noting that:
 - You must use the full secure URL for MWS. For example:
`https://mws.example.com:8443`
 - The host name must match the Common Name (CN) of the MWS server certificate.
 - The Viewpoint server must be able to resolve the host name using `/etc/hosts` or DNS.

Related Topics

- [1.2 Basic Configuration Page](#)

1.10.2 Configuring Viewpoint to Use SSL

Adaptive Computing strongly recommends using Viewpoint on a secure channel (SSL). This topic explains how to enable SSL for Viewpoint.

i The steps in this topic must be performed before you set up the connection to MWS.

Perform the following steps:

1. [Create a Self-Signed Certificate](#)
2. [Enable SSL for Viewpoint](#)

1.10.2.A Create a Self-Signed Certificate

To do this, follow these steps.

1. Generate a private key:

```
[root]# openssl genrsa -out server.key 1024
```

i This will create an unencrypted private key. It is recommended that this private key has only root privileges.

If you want to encrypt this private key (add a passphrase), do the following:

```
[root]# openssl genrsa -des3 -out server.key 1024
```

2. Generate the certificate signing request from the private key (what is used to create a self-signed certificate):

```
[root]# openssl req -new -key server.key -out server.csr
```

- a. If you encrypted the private key, enter the passphrase when prompted.
- b. Enter the certificate metadata when prompted. For example:

```
...
Country Name (2 letter code) [XX]:US
State or Province Name (full name) []:Utah
Locality Name (e.g., city) [Default City]:Provo
Organization Name (e.g., company) [Default Company Ltd]:Adaptive Computing
Enterprises, Inc.
Organizational Unit Name (e.g., section) []:Engineering
Common Name (e.g., your name or your server's hostname)
[]:test1.adaptivecomputing.com
...
```

3. Generate the self-signed certificate from the CSR:

```
[root]# openssl x509 -req -in server.csr -signkey server.key -out server.crt
```

You should have both a private key (server.key) and a certificate (server.crt).

1.10.2.B Enable SSL for Viewpoint

To do this, follow these steps:

- [Red Hat-Based Systems](#)
- [SUSE-Based Systems](#)

Red Hat-Based Systems

1. Install the Apache SSL Module:

```
[root]# dnf install mod_ssl
```

2. Install the private key and certificate you generated earlier in this topic:

```
[root]# chmod 400 server.key server.crt
```

```
[root]# chown root:root server.key server.crt
[root]# cp -p server.key server.crt /etc/httpd
```

3. Open `/etc/httpd/conf.d/ssl.conf` and see if you are already running another web application on port 443. Running Viewpoint along with another web application on the same port is not supported. You will either need to remove the other application or consult the [Apache Web Server documentation](#) for advanced options:

i The MAM install documentation explains how to set up MAM Web Services and the MAM GUI to run on port 443. Running both Viewpoint and MAM on the same port is not supported.

4. In `/etc/httpd/conf.d/ssl.conf`, set `SSLCertificateFile` and `SSLCertificateKeyFile` to reference the paths of the certificate and key you generated earlier. Make sure the `SSLEngine` directive is set to `on`. These lines should be between the `<VirtualHost default:443>` and `</VirtualHost>` lines.

```
<VirtualHost _default_:443>
    SSLEngine On
    SSLCertificateFile /etc/httpd/server.crt
    SSLCertificateKeyFile /etc/httpd/server.key
    #... Other configuration options
</VirtualHost>
```

5. Copy everything between the `<VirtualHost *:8081>` and `</VirtualHost>` lines in `/etc/httpd/conf/viewpoint.conf` to `/etc/httpd/conf.d/ssl.conf` between the `<VirtualHost default:443>` and `</VirtualHost>` lines. For example:

```
<VirtualHost _default_:443>
    SSLEngine on
    SSLCertificateFile /etc/httpd/server.crt
    SSLCertificateKeyFile /etc/httpd/server.key

    #... Other configuration options already in ssl.conf

    SetEnv VIEWPOINT_LOG /var/log/viewpoint/wsgi.log

    WSGIPassAuthorization on
    WSGIScriptAlias / /opt/viewpoint/lib/viewpoint/iris/wsgi.py
    DocumentRoot /opt/viewpoint/lib/viewpoint/
    Alias /static/ /opt/viewpoint/lib/viewpoint/compiled-static/

    <Directory /opt/viewpoint/lib/viewpoint/compiled-static>
        <Files wsgi.py>
            Require all granted
        </Files>
    </Directory>
</VirtualHost>
```

6. Either delete `/etc/httpd/conf.d/viewpoint.conf` or move the file outside of the `/etc/httpd` directory:

```
[root]# rm /etc/httpd/conf.d/viewpoint.conf
```

7. Verify the syntax in the configuration file is correct:

```
[root]# httpd -t
Syntax OK
```

8. Restart Apache Web Server:

```
[root]# systemctl restart httpd
```

Viewpoint should now be running with https on port 443. To test that it worked, open Viewpoint in a web browser:

```
https://<viewpoint host>:443
```

SUSE-Based Systems

1. Install the private key and certificate you generated earlier in this topic:

```
[root]# chmod 400 server.key server.crt
[root]# chown root:root server.key server.crt
[root]# cp -p server.key server.crt /etc/httpd
```

2. Make sure there are no other Apache applications listening on port 443:

i The MAM install documentation explains how to set up MAM Web Services and the MAM GUI to run on port 443. Running both Viewpoint and MAM on the same port is not supported.

To do this change into the `/etc/apache2/vhosts.d` directory and grep for 443. You should only see the `vhost-ssl.template` file. If you see others, you will have a port conflict.

```
[root]# cd /etc/apache2/vhosts.d
[root]# grep -r 443 *
vhost-ssl.template:<VirtualHost _default_:443>
vhost-ssl.template: #ServerName www.example.com:443
```

3. Copy the `vhost-ssl` template into a new file called `viewpoint-ssl.conf`:

```
[root]# cp vhost-ssl.template viewpoint-ssl.conf
```

4. In `viewpoint-ssl.conf`, set `SSLCertificateFile` and `SSLCertificateKeyFile` to reference the paths of the certificate and key you generated earlier. Make sure the `SSLEngine` directive is set to `on`. Remove the other existing options and add everything between the `<VirtualHost *:8081>` and

`</VirtualHost>` lines in `/etc/apache2/conf.d/viewpoint.conf`. When you are done, the `VirtualHost` section of `viewpoint-ssl.conf` will look something like the following:

```
Listen 443
Define SSL
<IfDefine SSL>
<IfDefine !NOSSL>

<VirtualHost _default_:443>
    SSLEngine on
    SSLCertificateFile /etc/apache2/server.crt
    SSLCertificateKeyFile /etc/apache2/server.key
    SetEnv VIEWPOINT_LOG /var/log/viewpoint/wsgi.log
    SetEnv VIEWPOINT_PREFIX /opt/viewpoint

    WSGIPassAuthorization on
    WSGIScriptAlias / /opt/viewpoint/lib/viewpoint/iris/wsgi.py
    DocumentRoot /opt/viewpoint/lib/viewpoint/

    Alias /static/ /opt/viewpoint/lib/viewpoint/compiled-static/

    <Directory /opt/viewpoint/lib/viewpoint/compiled-static>
        Require all granted
    </Directory>

    <Directory /opt/viewpoint/lib/viewpoint/iris>
        <Files wsgi.py>
            Require all granted
        </Files>
    </Directory>
</VirtualHost>

</IfDefine>
</IfDefine>
```

5. Either delete `/etc/apache2/conf.d/viewpoint.conf` or move the file outside the `/etc/apache2` directory so it does not get accidentally read by Apache Web Server:

```
[root]# rm /etc/apache2/conf.d/viewpoint.conf
```

6. Verify the syntax in the configuration file is correct:

```
[root]# httpd -t
Syntax OK
```

7. Restart Apache Web Server:

```
[root]# systemctl restart httpd.service
```

Viewpoint should now be running with https on port 443. To test that it worked, open Viewpoint in a web browser:

```
https://<viewpoint host>:443
```

1.10.3 Using Viewpoint for Slurm

This is an overview using Viewpoint as a GUI for Slurm workloads. **Note:** The Adaptive Computing Services Team will assist with this process.

Installation

We recommend that the following products be installed: Moab Workload Manager, Torque, Moab Insight, and Moab Web Services.

Configuration

When the above installation is complete, we make use of a Native Resource Manager in Moab.

Adaptive Computing will supply the Python scripts. The script tarball has two .cfg files.

1. To include the .cfg files, use the moab.cfg configuration file on the Moab head node by adding the lines `#include moab.d/*.cfg` in `/opt/moab/etc/moab.cfg`, then create `/opt/moab/etc/moab.d` and copy and paste the .cfg files there.
2. Copy and paste the Python scripts from the tarball to `/opt/moab/tools`.
3. View the Python scripts and you will see this message: 'This module is part of a set of modules which combine to implement a Moab technique for submitting jobs to Slurm using Slurm's own CLI commands'. Then run `systemctl restart moab`, and the Slurm integration into Moab is complete.
4. Verify that the Slurm nodes are visible by running `mdiag -n -v` on the Moab head node. You should see the Slurm cluster nodes, which reference the Slurm cluster information on your Slurm head node.

The above-mentioned Python scripts get the required information from the Slurm VM where the Slurm cluster is running. There needs to be communication between the Moab head node and the Slurm VM to make the Slurm clusters (nodes) available in Moab, as well as in Viewpoint.

A user or admin can create a Viewpoint template containing the submission script (Slurm) and resources required (Slurm cluster) on Moab.

When a Slurm Viewpoint template is submitted using the Viewpoint GUI, the Slurm job/workload will run against the available Slurm nodes and will accordingly be run on the Slurm cluster. When run, the Slurm user/admin will see Slurm workloads being processed on the Slurm cluster.

Viewpoint functions can be used to submit and manage your Slurm workload, which gives the Slurm user a GUI for creating and managing their Slurm workloads.

Chapter 2: Viewpoint Basics

This chapter provides a brief overview of Viewpoint, including the Viewpoint **Home** page and general navigation.

In this chapter:

- [2.1 The Viewpoint Home Page](#)
- [2.2 Menu Bar](#)
- [2.3 Navigating Viewpoint](#)
- [2.4 Logging In / Signing Out](#)

2.1 The Viewpoint Home Page

The **Home** page displays an overview of your system, including system utilization, a workload summary, and resource allocation. Once the Viewpoint portal has been configured, the **Home** page is the default view when logging in. You can also click `Home` from the menu to view the **Home** page.

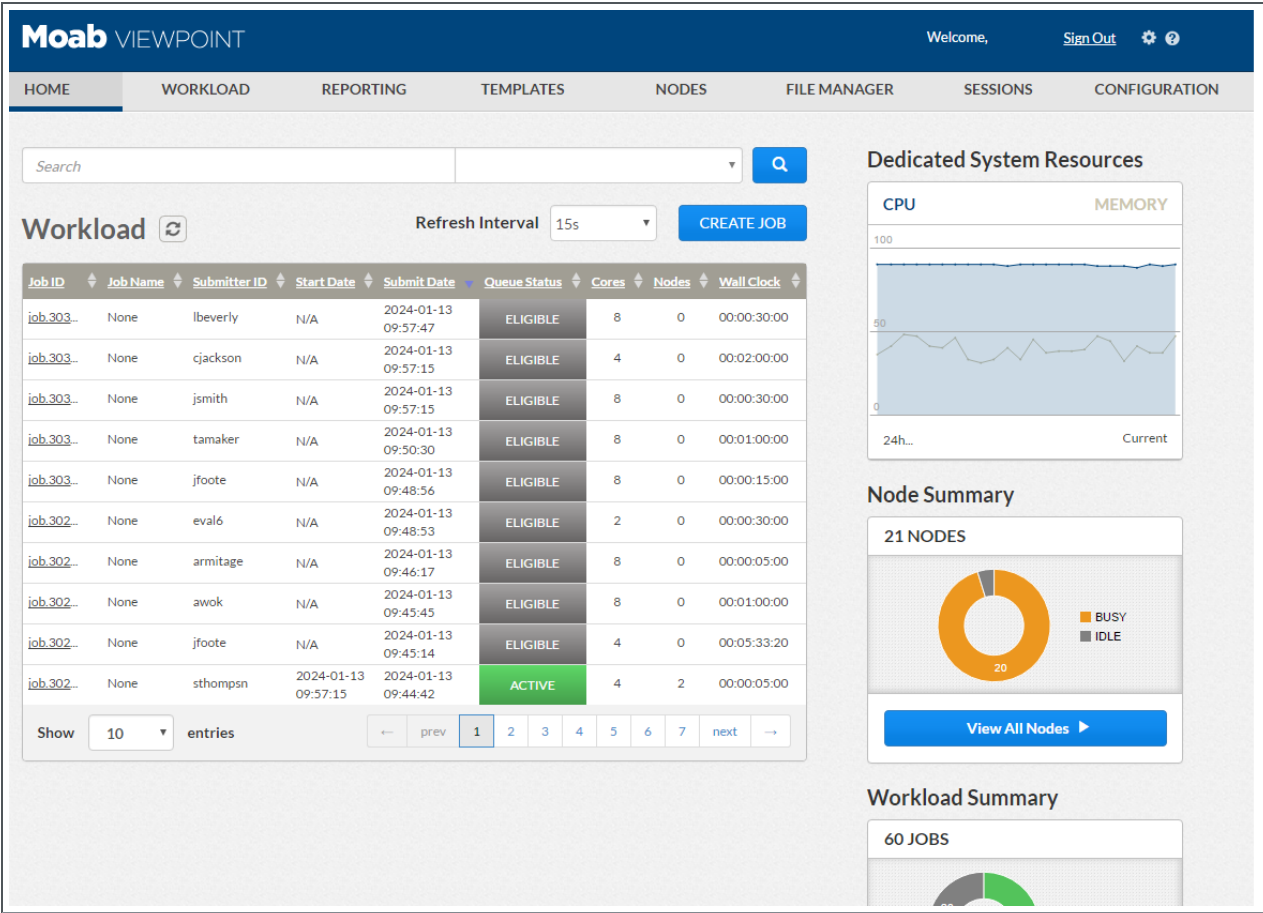
This topic provides an example of the **Home** page and describes its layout and available information.

In this section:

- [2.1.1 Page Example](#)
- [2.1.2 Widgets](#)

2.1.1 Page Example

This is an example of the **Home** page:



2.1.2 Widgets

The **Home** page comes configured with widgets that display different aspects of your system, specifically:

- [Workload Widget](#)
- [Dedicated System Resources Widget](#)
- [Node Summary Widget](#)
- [Workload Summary Widget](#)

2.1.2.A Workload Widget

The Workload widget displays workload job information for your system. This workload display directly corresponds to the information provided from the **Workload** page. This widget includes a search bar to find a specific job ID.

Use this widget to manage the workload and view the results in the Workload Summary and Node Summary widgets without having to leave the **Home** page.

2.1.2.B Dedicated System Resources Widget

The Dedicated System Resources widget provides a graphical ratio of resources dedicated to jobs compared to total resources. The graphical result is displayed based activity within the last 24 hours.

This widget uses these criteria:

- **CPU** – The percentage of processors dedicated to running jobs over the total processors in the cluster. For example, if your cluster has 5,000 processors and 4,500 of those processors are dedicated to jobs, your CPU utilization is 90%.
- **Memory** – The percentage of memory dedicated to running jobs over the total amount of memory in the cluster. For example, if your cluster has 1,000 GB of memory and 850 GB of memory is dedicated to jobs, then your memory utilization is 85%.

You can hover your pointer over the graphical display to view additional information.

 The user must be assigned to a role with Systems Resources Widget permission selected to view information for this widget.

2.1.2.C Node Summary Widget

The Node Summary widget provides a graphical overview of the total nodes within your Viewpoint configuration and their status.

Click on the status line to open the **Nodes** page to display only the nodes in that status. Using the **Home** page example provided earlier, click anywhere on the orange line to view the 45 nodes that are busy.

Click `View All Nodes` to open the **Nodes** page in default view (without specified selection criteria).

i The user must be assigned to a role with Node Summary Widget permission selected to view information for this widget.

2.1.2.D Workload Summary Widget

The Workload Summary widget provides a graphical overview of the total jobs within your Viewpoint configuration and their status.

Click on the status line to open the **Workload** page to display only the jobs in that status.

Click `View All Workload` to open the **Workload** page (without a status filter).

i The user must be assigned to a role with Workload Summary Widget permission selected to view information for this widget.

2.2 Menu Bar

The Menu bar appears just above the selected page and displays all of the pages available to the signed-in user.

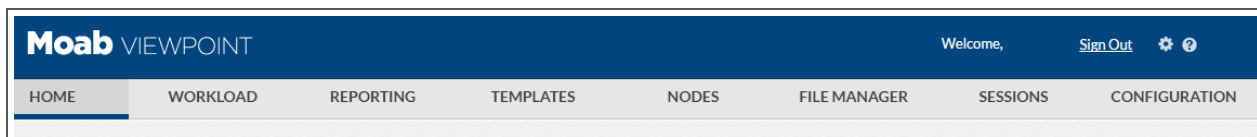
Select a menu item to open directly to that page.

Related Topics

- [1.1 Configuration Page](#)
- [2.1 The Viewpoint Home Page](#)
- [3.1 Workload Page](#)
- [4.1 Application Templates Page](#)
- [5.1 Nodes Page](#)
- [6.1 File Manager Page](#)

2.3 Navigating Viewpoint

The menu bar is fixed at the top of every page:



At any time, you can select a menu item to open directly to that page. You can also use the Homepage widgets to navigate to certain pages. See [2.1 The Viewpoint Home Page](#) for more information.

i If the logged-in user does not have permissions to access a particular page, the page link will not appear in the menu. If a user tries to access a page (by entering a URL) that they do not have permissions to see, Viewpoint disallows access.

Related Topics

- [2.2 Menu Bar](#)

2.4 Logging In / Signing Out

You must log in to Viewpoint from a web browser. For security purposes, it is important to log out (sign out) of Viewpoint after each use.

This topic provides information on how to successfully log in to and sign out of the Viewpoint portal. This topic assumes that the system administrator, or other authorized user, has set up the Viewpoint portal with user roles and permissions as described in [Chapter 1: Viewpoint Configuration](#).

i The Menu options available to a user will vary, depending on the user's credentials.

i Viewpoint stores your Moab HPC Suite credentials locally while you are logged in. If there are any changes to your group, account, class, or QoS assignments, you must log out of Viewpoint and back in again to refresh your Moab HPC Suite credentials.

Log In to Viewpoint

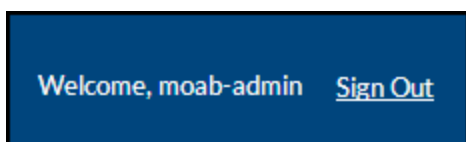
To do this, follow these steps.

1. In a web browser, navigate to the **Viewpoint Login** page (https://<viewpoint_host>:8081). Where `<viewpoint_host>` is the IP address or name of the Viewpoint Host (actual machine on which Viewpoint was installed).
2. Enter your Username and Password into the respective fields.
3. Click `Login`. You will be redirected to the Viewpoint **Home** page. See [2.1 The Viewpoint Home Page](#).

Sign Out of Viewpoint

To do this, follow these steps.

1. Locate the Sign Out link in the top right corner of the page:



2. Click `Sign Out`. You will be redirected to the login page.

Related Topics

- [2.2 Menu Bar](#)

Chapter 3: Viewpoint Workload Overview

The Viewpoint **Workload** page provides information relating to job metrics. Specifically, the **Workload** page provides access to:

- A detailed list of the jobs in the workload. Using this page, you can view information about the job (for example, to see if the job is running correctly), change a job's status, or create a new job (using an application template).
- The **Job Details** page, which provides additional details about a job.

In this chapter:

- [3.1 Workload Page](#)
- [3.2 Job Details Page](#)
- [3.3 Job Details—Functional Areas](#)
- [3.4 Job Details—Additional Areas](#)
- [3.5 Job Arrays](#)
- [3.6 Managing the Workload](#)
- [3.7 Creating a Job](#)
- [3.8 Creating or Editing a Job Submission Script](#)
- [3.9 Viewing Job Details](#)
- [3.10 Changing a Job's State](#)

3.1 Workload Page

The **Workload** page offers a place to determine the status of jobs in your workload. You can also change a job's status or create a new job (using an application template).

To access this page, click `WORKLOAD` from the menu.

This topic provides an example of the **Workload** page and describes its layout and available information.

In this section:

- [3.1.1 Page Example](#)
- [3.1.2 Selection Criteria Area](#)

3.1.3 Workload View Details

3.1.1 Page Example

This is an example of the **Workload** page:

Workload

Refresh Interval 15s

Current Search: 1010 results returned

Job ID	Job Name	Submitter ID	Start Date	Submit Date	Queue Status	Cores	Nodes	Wall Clock
Moab.2	ModelArray	hgranger	N/A	2024-07-27 13:24:22	COMPLETED	1	0	00:01:00:00
Job Array								
All Subjobs 10 Idle 0 Running 0 Blocked 0 Hold 0 Removed 0 Completed 10								
Moab.2[1] Moab.2[4] Moab.2[7] Moab.2[10]								
Moab.2[2] Moab.2[5] Moab.2[8]								
Moab.2[3] Moab.2[6] Moab.2[9]								
← 1 →								
nativerm.1008	None	vcrabbe	N/A	2024-07-27 12:31:05	BLOCKED	32	0	00:01:00:00
nativerm.1007	None	strelawney	2024-07-27 12:30:34	2024-07-27 12:30:34	ACTIVE	2	1	00:22:13:20
nativerm.1006	None	vcrabbe	2024-07-27 12:30:03	2024-07-27 12:28:30	ACTIVE	8	5	00:05:33:20
nativerm.1005	None	cdiggory	2024-07-27 12:27:59	2024-07-27 12:26:26	COMPLETED	4	2	00:02:00:00

Show 5 entries

← prev 1 2 3 4 5 6 7 next →

- Select -

Narrow Search

Filters

- Select Queue Status -

- Select Job Type -

- Select -

RESET

FILTER

3.1.2 Selection Criteria Area

The right side of this page provides selection criteria you can use to limit what is displayed in the workload view.

You can choose to display:

- Specific jobs based on the job ID or the user who submitted the job (submitter ID). Select the value from the Current Search drop-down, in the Narrow Search field, enter the specific information, and then click .
- Jobs matching a specific status (state). Select the status from the Select Job State drop-down and then click Filter.
- Only job arrays or only regular jobs. The job arrays option is only applicable for arrays reported directly from Moab. Arrays reported using Torque will only display

as a single (combined) job. Select the job type from the `Select Job Type` drop-down and then click `Filter`.

- Jobs within a given start date range or within a wallclock range. Selecting `Start Date` or `Wall Clock` will provide additional fields to specify the range. Specify the desired range and then click `Filter`.

i You can utilize multiple selection criteria options; however, only the jobs that match all of the defined options will be shown in the workload view.

Click `Reset` at any time to remove all defined selection criteria options (restore the page defaults).

3.1.3 Workload View Details

The following information explains the layout and additional information available in the workload view:

- Display Refresh** – You can refresh the information displayed in the workload view (including specified search and filter criteria) to reflect the latest information about the jobs. At the top of the workload view, click .
- Job Creation** – The `CREATE JOB` button at the top of the workload view is for creating a new job based on available application templates. See [3.7 Creating a Job](#) for detailed instructions.
- Columns** – The workload view displays the data in a column format. Column titles that are underlined indicate that you can sort (ascending or descending) the column contents.

This table describes the different columns and their contents:

Column Heading	Description
<u>Job ID</u>	Unique identifier given to a job by Moab (or the resource manager). In this column you can also: - Use the  icon to change the status of a non-completed job (as displayed in the <code>Job Status</code> column). See 3.10 Changing a Job's State. - Display additional information about a job. Click a job ID to open the Job Details page. See 3.9 Viewing Job Details. - See job array information. For a Moab job array, you will see the

Column Heading	Description
	job array ID and then you can expand it to see the jobs within the job array. See 3.5 Job Arrays . Job arrays sent through Torque will be treated as a single job.
Job Name	Name of the job provided by the user; also called the friendly name.
Submitter ID	Name of the user that submitted the job.
Start Date	Date and time when the job is scheduled to start or has started.
Submit Date	Date and time that the job was submitted.
Queue Status	Current state of the job (for example, ELIGIBLE, COMPLETED, ACTIVE, IDLE).
Cores	Number of allocated cores.
Nodes	Number of allocated nodes. A zero indicates the job has not yet run or executed.
Wall Clock	Amount of time requested for the job. This represents the maximum amount of time the job is expected to run and is specified when the job is submitted. It does <i>not</i> represent the amount of time for which the job actually ran (if the job is in COMPLETED status). Wall clock time uses the following format: Days:Hours:Minutes:Seconds. For example, 01:02:03:04 means the owner of the job requested the job run for one day, two hours, three minutes, and four seconds. Jobs that exceed their wall clock limits are subject to the corrective action specified in the Moab WCVIOLATIONACTION parameter.

- **Page Controls** – Page controls are available at the bottom of the workload view to customize how many jobs appear per page. The page controls also include options for selecting which page to display.

Related Topics

- [3.2 Job Details Page](#)
- [3.5 Job Arrays](#)
- [3.7 Creating a Job](#)

- [3.9 Viewing Job Details](#)
- [3.10 Changing a Job's State](#)

3.2 Job Details Page

The **Job Details** page shows additional information about a job and lets you make certain modifications to a given job. To access this page, from the Workload view, click on the Job ID link for the job.

This topic provides an example of the **Job Details** page and describes its overall layout, with a detailed description of the job status information at the top of the page.

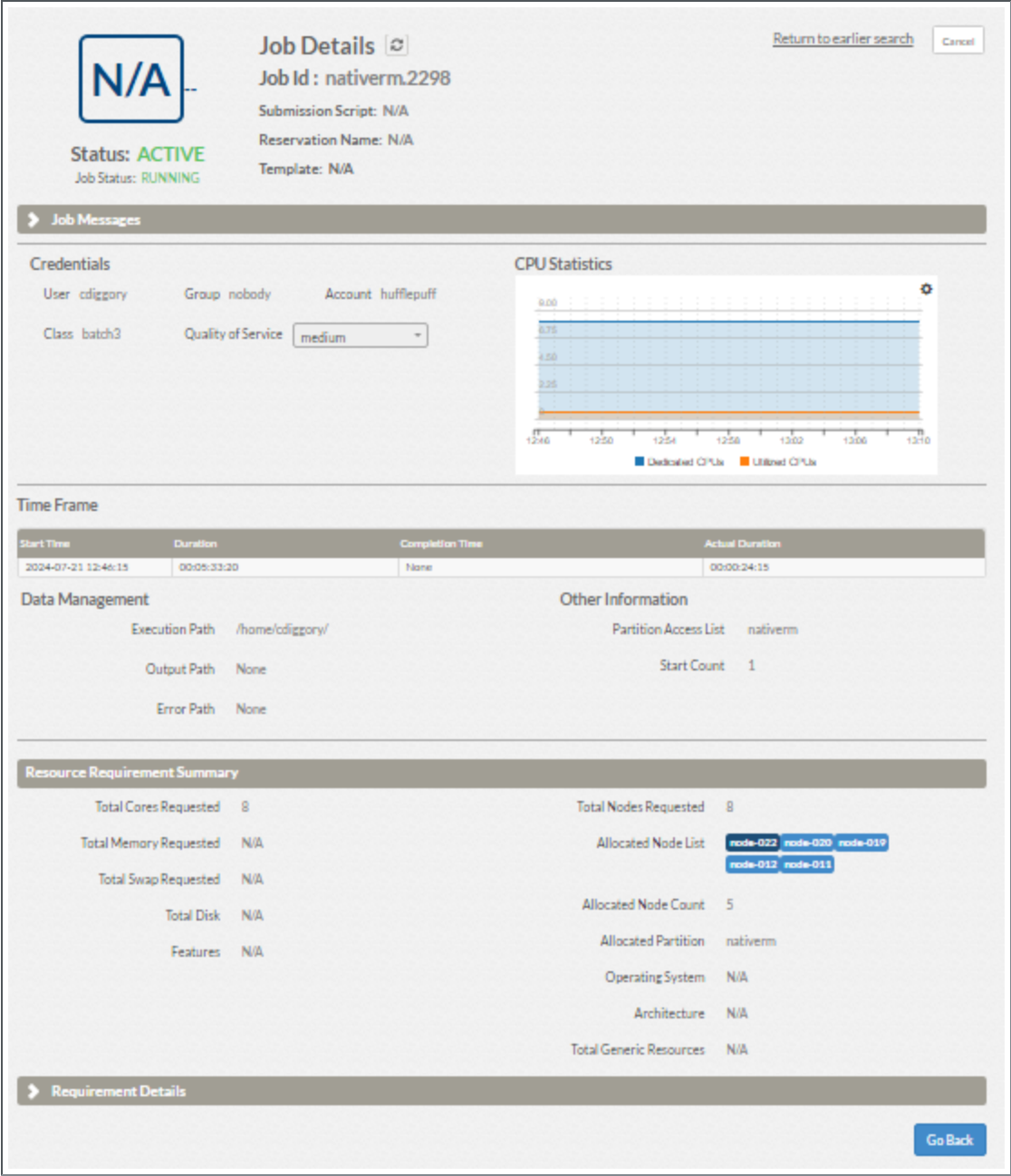
In this section:

- [3.2.1 Page Example](#)
- [3.2.2 Page Actions and Navigation](#)
- [3.2.3 Job Actions and Basic Information](#)
- [3.2.4 Scheduler Analysis](#)

See [3.3 Job Details–Functional Areas](#) and [3.4 Job Details–Additional Areas](#) for information about other areas of the **Job Details** page.

3.2.1 Page Example

This is an example of the **Job Details** page:



3.2.2 Page Actions and Navigation

These buttons let you perform actions on this page:

- **Go Back** – Returns to the **Workload** page; if you have authorization to make changes, this will discard any unsaved changes.
- **Done** – Submits any job changes to Moab Workload Manager and returns to the **Workload** page.
- **Apply** – Submits any job changes to Moab Workload Manager and stays on the **Job Details** page.

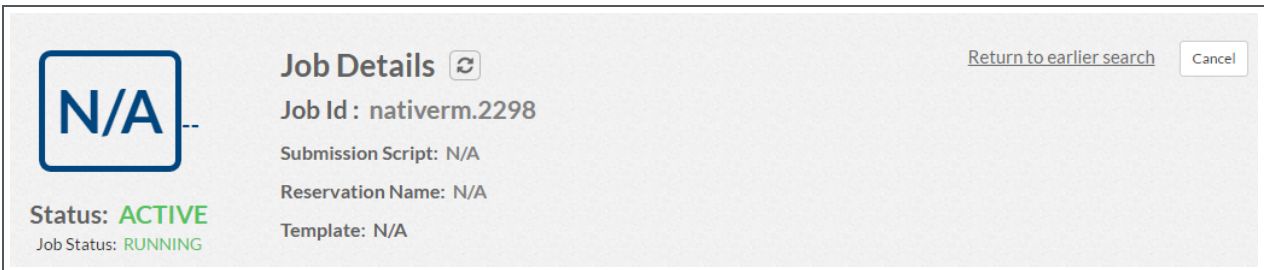
At the right of the page there are two floating buttons that can be clicked to navigate to the top and the bottom of the page:

- Click  to navigate to the top of the page.
- Click  to navigate to the bottom of the page.

 The information contained in, and the actions you can perform using, the **Job Details** page will vary based on the job's status, the user's role permissions, and/or the fields available from the application template.

3.2.3 Job Actions and Basic Information

At the top of the **Job Details** page you will find basic information and actions pertaining to the job:



Job Details 

[Return to earlier search](#)

Job Id: nativerm.2298

Submission Script: N/A

Reservation Name: N/A

Template: N/A

Status: **ACTIVE**

Job Status: **RUNNING**

Job Actions

At the upper right of the page, you may find several links and buttons to perform actions. You will only see links and buttons for actions that you are authorized to perform. These are separate from the page-related actions identified later in this topic.

- The **Return to earlier search** link takes you to the **Workload** page with the search and filter criteria you specified.
- The **Cancel** button appears for a running or idle job and lets you cancel the job.
- The **Hold** button appears for an active job and lets you place the job in idle status.

- The `Release` button appears for a job for which a hold has been applied and lets you release the hold on the job and allow it to continue running.
- The `More Information` button appears for blocked jobs and, based on the user's permissions, lets you view the Schedule Analysis window. See [3.2.4 Scheduler Analysis](#).

Job Basic Information

At the upper left and right of the page, you will find several fields displaying basic information:

- `Job Id` – ID given to the job by Moab or the resource manager.
- `Submission Script` – Name of the script used to generate the job. For jobs sent directly from Moab or the resource manager, this will be 'N/A'.
- `Reservation Name` – Name of the reservation, if applicable, associated with the job.
- `Template` – Name of the application template used to create the job information. For jobs sent directly from Moab or the resource manager, this will be 'N/A'.

3.2.4 Scheduler Analysis

 The Scheduler Analysis requires the 'Job Details - Scheduling Analysis' permission. See [1.4.3 Role Permissions](#) for more information about the available permissions you can set.

When Scheduler Analysis is enabled, the `More Information` button appears under the Status information when the job is blocked. Click this button to view the `Schedule Analysis` pop-up window.

This window provides information useful in debugging why Moab is not running the job.

This is an example of the **Scheduler Analysis** window:

Scheduler Analysis

Block Reasons

Showing 0 to 0 of 0 entries

Search:

Block Reason

Message

No block reasons found

Warning Messages

Showing 1 to 1 of 1 entries

Search:

Message

job violates constraints for partition torque (partition torque not in job partition mask)

Node Analysis

Showing 1 to 10 of 50 entries

Search:

Node Name

Message

node-001

node-001 available: 1 tasks supported

node-002

node-002 rejected: State (Busy)

node-003

node-003 available: 2 tasks supported

node-004

node-004 rejected: State (Busy)

node-005

node-005 rejected: State (Busy)

node-006

node-006 rejected: State (Busy)

node-007

node-007 available: 2 tasks supported

node-008

node-008 rejected: State (Busy)

node-009

node-009 rejected: State (Busy)

node-010

node-010 rejected: State (Busy)

Show 10 entries

Previous

1

2

3

4

5

Next

Close

3.2 Job Details Page

66

Related Topics

- [3.1 Workload Page](#)
- [3.3 Job Details–Functional Areas](#)
- [3.4 Job Details–Additional Areas](#)
- [3.9 Viewing Job Details](#)

3.3 Job Details–Functional Areas

The **Job Details** page shows additional information about a job and is for making certain modifications to a given job. To access this page, from the Workload view, click on the Job ID link for the job.

This topic describes functional areas, including field descriptions, available on the **Job Details** page. To expand and display a functional area, click ➤ to the left of the title of the desired area.

i The information contained in, and the actions you can perform using, the **Job Details** page will vary based on the job's status, the user's role permissions, and/or the fields available from the application template.

In this section:

- [3.3.1 Priority](#)
- [3.3.2 Job Messages](#)
- [3.3.3 Credentials and CPU Statistics](#)
- [3.3.4 Time Frame](#)
- [3.3.5 Data Management and Other Information](#)
- [3.3.6 Resource Requirement Summary](#)
- [3.3.7 Requirement Details](#)

3.3.1 Priority

i The **Priority** area requires the 'Job Details - Priority Analysis' permission. See [1.4.3 Role Permissions](#) for more information about the available permissions you can set.

The **Priority** area lists the priority factors applied to the job for scheduling purposes. Expand the area to view the prioritization factors.

Expand the **Priority** area to view the additional information. Click  to refresh the priority information:

[illegible]

The **Priority** area is organized as follows. The top area shows the cumulative value for these prioritization areas:

- **User Job Priority** – User-defined priority factors. See 'Job Priority Factors' in the *Moab Workload Manager Administrator Guide* for more information on the available factors.

i This feature requires the User Priority field to be enabled in the application template *and* the Moab ENABLENEGJOBPRIORITY server parameter must be set to TRUE. See [4.4.3.C Advanced Settings](#) for more information on the User Priority field.

- **System Priority** – Factors that are used to override Moab Workload Manager's start priority to allow jobs to start sooner than they would ordinarily. See 'mjobctl' in the *Moab Workload Manager Administrator Guide* for more information on the available factors.
- **Start Priority** – Moab's defined start priority.
- **Job Start Count** – Number of times Moab has requeued the job after a job failure or preemption.

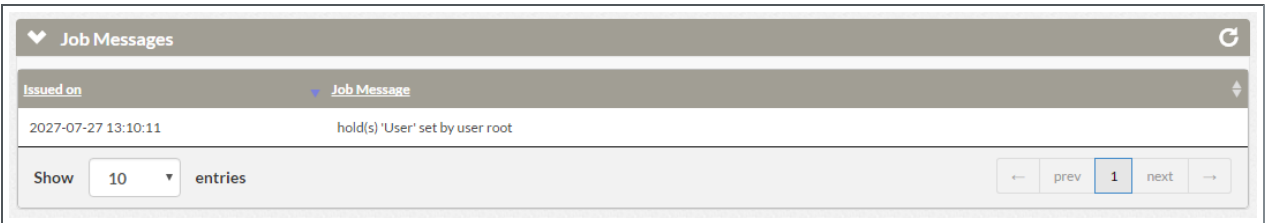
The second area provides details about how Moab calculated the start priority. The different start priority groups are listed and are also broken down into each factor within

the group. The cumulative weight for the group and how that breaks down into the different factors are provided.

3.3.2 Job Messages

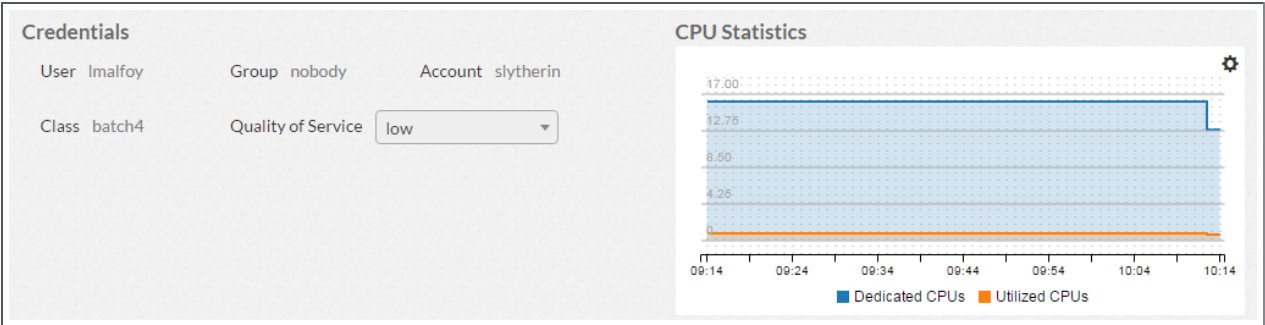
The **Job Message** area lists any messages reported by Moab. These are the same messages you can view in Moab using `checkjob -v -v`.

Expand the **Job Messages** area to view the reported messages, if any. Click  to refresh the job message information:



3.3.3 Credentials and CPU Statistics

This is an example of the **Credentials** and **CPU Statistics** areas:



Credentials Area

The **Credentials** area displays information about the user who created/submitted the job. This table describes the fields in the **Credentials** area:

Field	Description
User	The user that submitted a job.
Group	Displays the group credential, which represents an aggregation of users. User-to-group mappings are often specified by the operating system or resource manager

Field	Description
	and typically map to a user's UNIX group ID. However, user-to-group mappings may also be provided by a security and identity management service, or you can specify such directly within Moab HPC Suite.
Account	Displays the account credential. This credential is generally associated with a group of users along the lines of a particular project for accounting and billing purposes.
Class	Displays the job class. The concept of the class credential is derived from the resource manager class or queue object. Classes differ from other credentials in that they more directly impact job attributes. In standard HPC usage, a user submits a job to a class and this class imposes a number of factors on the job. The attributes of a class can be specified within the resource manager or directly within Moab HPC Suite.
Quality of Service	Quality of service status applied to the job (for example, low, medium, or high).

CPU Statistics Area

The **CPU Statics** area contains a graph depicting the CPU statistics of the job. Click  to open a pop-up window to specify the range and refresh intervals for the displayed statistics. You can also manually update the display.

3.3.4 Time Frame

The **Time Frame** area provides information on the job's start and completion times as well as duration information.

This is an example of the **Time Frame** area:

Time Frame			
Start Time	Duration	Completion Time	Actual Duration
2027-10-17 13:00:16	00:22:13:20	None	00:02:46:20

This table describes the fields in the **Time Frame** area:

Field	Description
Start Time	The date and time that the job started.
Duration	The amount of time requested for the job in seconds. This represents the maximum amount of time the job is expected to run and is specified when the job is submitted. This does not represent the amount of time the job actually ran if the job is completed. Jobs that exceed their wallclock limits are subject to the corrective action specified in the Moab WCVIOLATIONACTION parameter.
Completion Time	The date and time that the job completed; 'None' if the job is running or idle.
Actual Duration	The amount of time the job has been running (or ran if the job is completed).

3.3.5 Data Management and Other Information

This is an example of the data management and other information areas:

Data Management		Other Information	
Execution Path	/home/cchang	Partition Access List	None
Output Path	None	Start Count	1
Error Path	None		

Data Management Area

The **Data Management** area displays the file paths defined for the job. Click  to open the **File Manager** page to change folder paths.

This table describes the fields in the **Data Management** area:

Field	Description
Execution Path	Directory path where the job was executed. This is typically the user's home directory.
Output Path	Directory path where the standard output file is stored. This is typically the user's home directory.
Error Path	Directory path where the error file is stored. This is typically the user's home directory.

Other Information Area

The **Other Information** area displays additional Moab-related information.

This table describes the fields in the **Other Information** area:

Field	Description
Partition Access List	List of available partitions on which the job can run.
Start Count	Number of times Moab requeued the job after a job failure or preemption.

3.3.6 Resource Requirement Summary

The **Resource Requirement Summary** area provides information on the resources requested/required for the job.

This is an example of the **Resource Requirement Summary** area:

Resource Requirement Summary			
Total Cores Requested	4	Total Nodes Requested	2
Total Memory Requested	N/A	Allocated Node List	node-019 node-018
Total Swap Requested	N/A	Allocated Node Count	2
Total Disk	N/A	Allocated Partition	nativevm
Features	N/A	Operating System	N/A
		Architecture	N/A
		Total Generic Resources	N/A

This table describes the fields in the **Resource Requirement Summary** area:

Field	Description
Total Cores Requested	Maximum dedicated processors allocated for the node.
Total Memory Requested	Maximum memory made available for the job.
Total Swap Requested	Amount of swap memory made available for the job.
Total Disk	Amount of disk space available for the job.
Features	Maximum number of supported node features.
Total Nodes Requested	Number nodes requested at job submission.
Allocated Node List	List of nodes allocated for the job. The job coordinator node is displayed with a dark blue background. Job worker nodes are displayed on a light blue background.
Allocated Node Count	Number of nodes actually allocated for the job.
Allocated Partition	Partition allocated for the job.
Operating System	Operating system on which the node can run.

Field	Description
Architecture	Node's processor architecture.
Total Generic Resources	Number of generic resources available.

3.3.7 Requirement Details

The **Requirement Details** area provides task-specific details about the job:

Requirement Details			
Task 1			
Processors	2	Generic Resources	N/A
Memory	N/A		
Swap	N/A		
Disk	N/A		
Features:	N/A		

If the job has more than one task definition, this area will list each task separately. In addition, if generic resources were defined, the generic resources field will contain a table listing the name of the resource and its used count.

Related Topics

- [3.1 Workload Page](#)
- [3.2 Job Details Page](#)
- [3.4 Job Details–Additional Areas](#)
- [3.9 Viewing Job Details](#)

3.4 Job Details–Additional Areas

The **Job Details** page shows additional information about a job and lets you make certain modifications to a given job. To access this page, from the Workload view, click on the Job ID link for the job.

This topic describes functional areas on the **Job Details** page that apply only to certain types of jobs.

In this section:

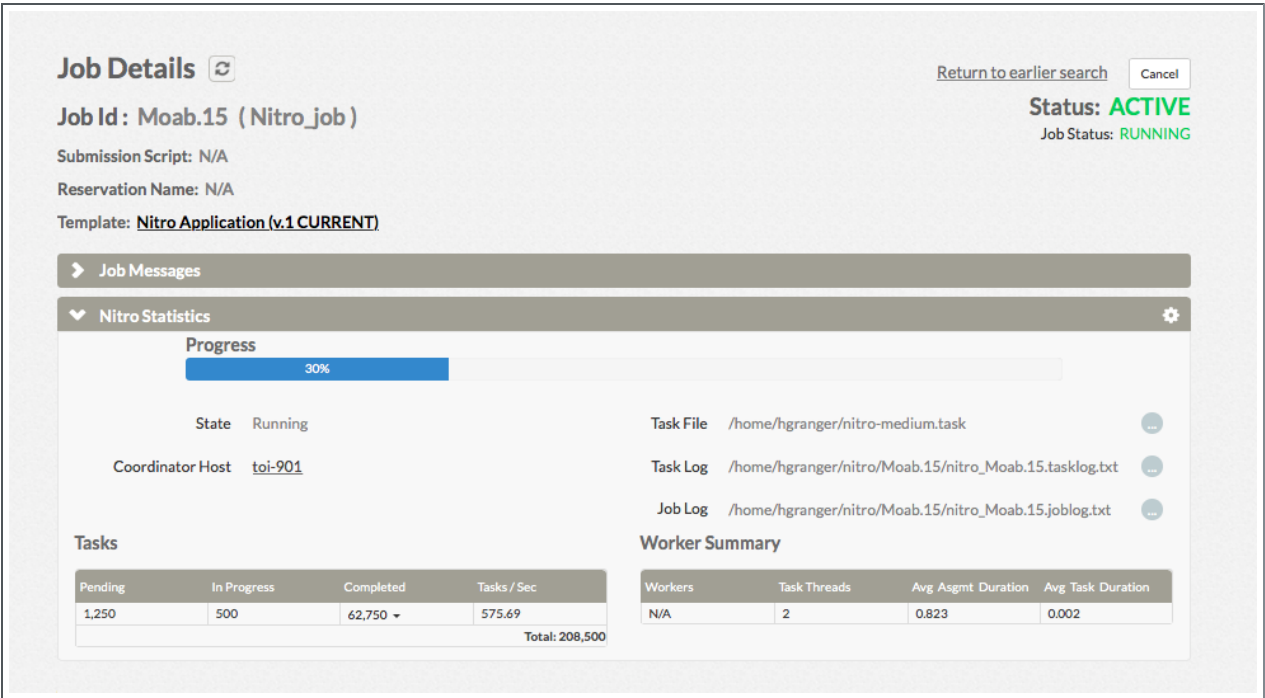
[3.4.1 Nitro Details](#)

[3.4.2 Job Array](#)

3.4.1 Nitro Details

i The **Nitro Details** area is only available if you have integrated with Nitro and enabled Nitro Web Services.

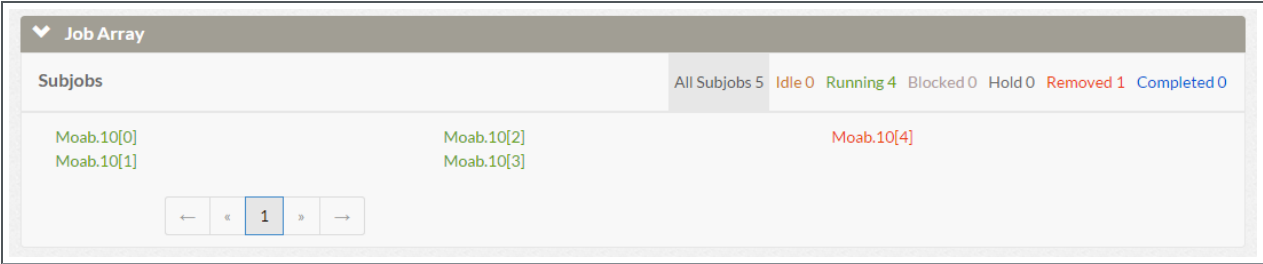
The **Nitro Details** area lists information pertaining to Nitro jobs:



3.4.2 Job Array

i The **Job Array** area is present when the job is the parent job in a job array.

The **Job Array** area lists the child jobs within the job array. You can click on any of the child jobs to view job details for that child job:



You can click on All Subjobs, Idle, Running, Blocked, Hold, Removed, and Completed to view only jobs in each category.

See [3.5 Job Arrays](#) for more information about job arrays.

Related Topics

- [3.1 Workload Page](#)
- [3.2 Job Details Page](#)
- [3.3 Job Details–Functional Areas](#)
- [3.9 Viewing Job Details](#)

3.5 Job Arrays

Viewpoint supports Moab job arrays and displays information on the child jobs and the parent job in the job array.

i Job arrays sent from Torque are treated as a single job (parent job).

This topic provides information specific to Moab job arrays in Viewpoint.

In this section:

- [3.5.1 Viewing Job Arrays](#)
- [3.5.2 Viewing Job Array Details](#)
- [3.5.3 Creating Job Arrays](#)

3.5.1 Viewing Job Arrays

Job array information is viewable from the **Workload** page. However, with the job array, instead of the Job ID, the job array ID is listed in the Job ID column, and the information in

the rest of the columns is the parent job information.

Expand the job ID to see a listing of the child jobs in the job array:

Job ID	Job Name	Submitter ID	Start Date	Submit Date	Job Status	Cores	Nodes	Wall Clock
▼ Moab.10	MyOtherArray	hgranger	None	2024-09-21 23:18:11	IDLE	1	0	99:23:59:59
Job Array			All Subjobs 5 Idle 0 Running 4 Blocked 0 Hold 0 Removed 1 Completed 0					
Moab.10[0]			Moab.10[2]			Moab.10[4]		
Moab.10[1]			Moab.10[3]					
◀ 1 ▶								

3.5.2 Viewing Job Array Details

Job detail information for a parent or child job in the job array is viewable using the **Job Details** page:

- For the parent job, select the job array ID in the Job ID column.
- For a child job, select the link for the child job from the expanded job array.

Once you have selected the job, the **Job Details** page displays. This page is similar to the **Job Details** page for non-job arrays, with these differences:

- Parent job:
 - The **Job Array** area is present. Expand this area to view the child jobs for this job array.

▼ Job Array		
Subjobs		
All Subjobs 5 Idle 0 Running 4 Blocked 0 Hold 0 Removed 1 Completed 0		
Moab.10[0] Moab.10[1] Moab.10[2] Moab.10[3] Moab.10[4]		
← 1 →		

- You can make changes to, hold, or cancel the parent job.

If you cancel a parent job, all child jobs will be canceled. However, if you hold the parent job, all the child jobs continue as normal.

- Child job:
 - The parent job ID is listed under the Job Id field. Click the parent job ID to return to the parent job.
 - The **Job Array** area is not present, as this is a child job.
 - You can make changes to, hold, or cancel the child job.

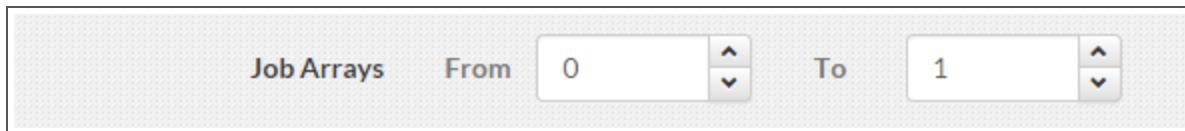
3.5.3 Creating Job Arrays

Viewpoint also lets you create job arrays.

i The user must have the Create Job permission applied. The user must also have access to an application template that has the 'Job Arrays' label enabled and visible and/or editable, and which includes a script with the 'Moab Array Env Variables'. See [1.4.3 Role Permissions](#) and [4.4 Application Template Details](#).

You use the **Create Job** page to also create a job array; however you must choose an application template that enables creation of a job array.

When the **Create Job** page displays, you will see the job array-specification fields in the **Basic Job Settings** area:



The screenshot shows a form element titled "Job Arrays". It contains two input fields: "From" and "To". The "From" field contains the number "0" and the "To" field contains the number "1". Each field has a small upward and downward arrow button to its right, indicating they are spinners or have a dropdown menu.

i The 'From' number is the first number you want appended to the job for the child job. The 'To' number is the maximum number of child job. For example, if you specified the range as From 0 To 3. The job array will have four child jobs: jobID[0], jobID[1], jobID[2], and jobID[3].

Related Topics

- [3.1 Workload Page](#)

3.6 Managing the Workload

Viewpoint lets you manage the state of non-completed jobs directly from the Workload view. For example, if a job is idle, you can place it on hold or cancel it.

To do this, follow these steps.

1. Display the Workload view (click `WORKLOAD` in the menu bar; depending on your user credentials, you can also access the Workload view from the **Home** page).
2. In the workload view, hover your pointer over the Job ID for a non-completed job and click the  icon. Depending on the current state of the job, the available options to change the job state appear. For example, if the job state is IDLE, the Hold and Cancel options are displayed.
3. Select the new state for the job. Once the state change has been passed to Moab, a message appears indicating it has been changed, and the new state appears in the Queue Status column.

Related Topics

- [3.1 Workload Page](#)

3.7 Creating a Job

Viewpoint lets you create a job directly from the **Workload** page.

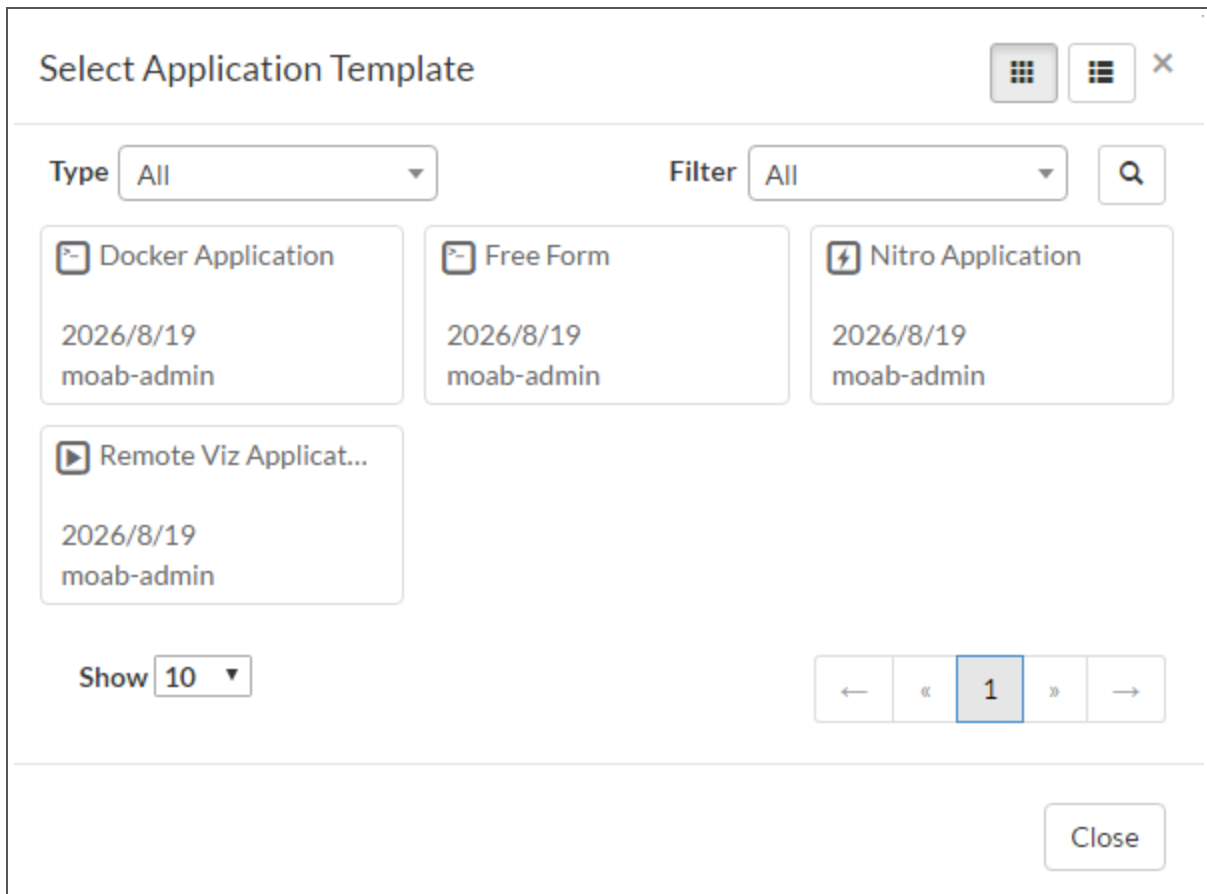


You must have been granted the 'Create Job Page' Viewpoint permission to create a job.

To do this, follow these steps.

1. Access the **Workload** page (click `WORKLOAD` in the menu bar).

2. Click **Create Job**. The **Select Application Template** pop-up window appears, showing a list of templates you can use to create a job:



You can toggle between a grid view and list view by clicking  and , respectively.

3. If desired, filter the application template results. For example:
 - Use the **Type** drop-down to limit by application template type.
 - Use the **Filter** drop-down to limit by its association to you:
 - Shared With Me – Created by another but shared with you (based on template permissions)
 - Owned by Me – Created by you
 - All – All templates shared with you or created by you

You can use the **Type** and **Filter** drop-downs in combination to further limit application template results (for example, to search for HPC Application templates you created).

Alternatively, you can click  to open a search field (replaces the `Filter` drop-down) that lets you enter the name of the application template you want to use. Again, you can use the `Type` drop-down to further limit the application template results.

4. Click the application template you want to use to create the job. The **Create Job** page appears with the fields from the selected application template.
5. Enter the necessary information for the new job, such as the job name and submission script.

At the right of the page there are two floating buttons that can be clicked to navigate to the top and the bottom of the page:

- Click  to navigate to the top of the page.
 - Click  to navigate to the bottom of the page.
6. Click `Create` to submit the information and create the job; otherwise, click `Cancel` to return to the Workload view.

Related Topics

- [3.1 Workload Page](#)

3.8 Creating or Editing a Job Submission Script

You may need to edit a job submission script when creating a job. If you have the **Application Templates** page Viewpoint permission, you can also create a default job submission script associated with a job template. See [4.4.7 Job Submission Script](#) for more information.

In this section:

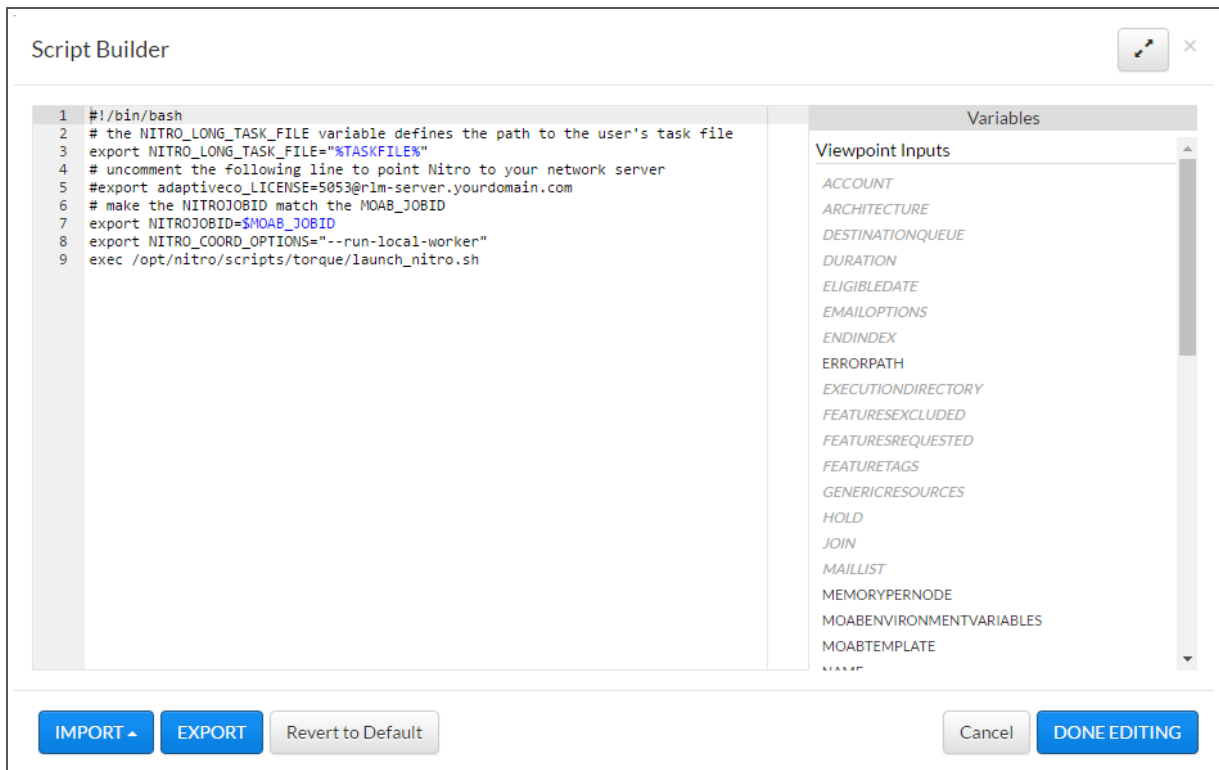
[3.8.1 Editing a Job Submission Script](#)

[3.8.2 Script Variables](#)

3.8.1 Editing a Job Submission Script

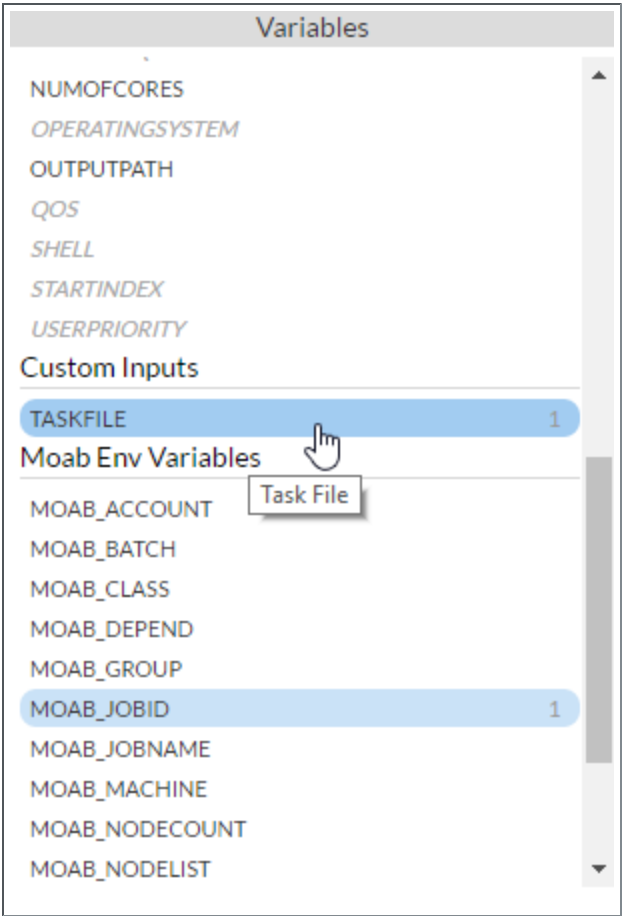
To do this, follow these steps.

1. Click **Customize Script** on the **Create Job** page. The **Script Builder** window appears:

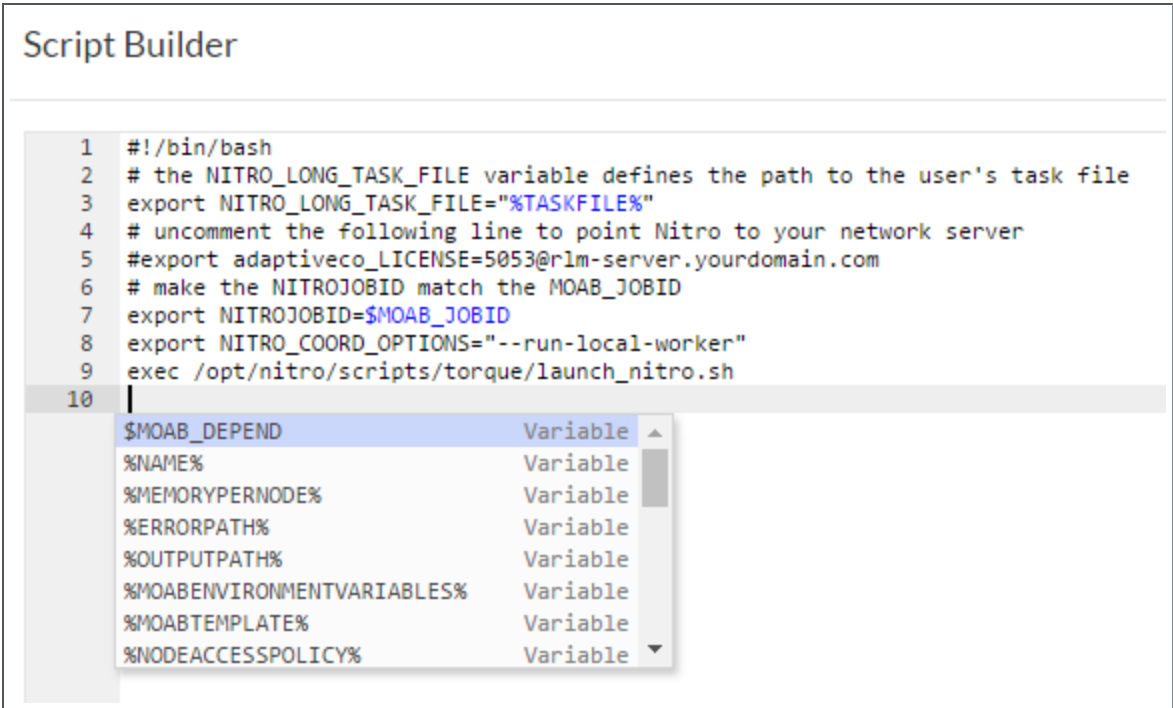


2. Enter the script in the pane on the left side of the **Script Builder**. To assist you in building your script, there is a list of variables on the right side of the Script builder that you can drag and drop into your script.

- 3. Hover your pointer over the variable to view its description. When used in the script, the variables shown on the right pane are highlighted and the number of times the variable is used in this script is displayed:



Another method for adding variables to a script is to enter Ctrl+Space when editing a script in the left pane. You can select the variables directly in this list instead of having to drag them from the right pane:



In addition to Viewpoint input variables, the list may include Custom Inputs, which are defined in the Custom Settings section of the job template, and Moab HPC Suite environment variables. See [3.8.2 Script Variables](#) for more information about script variables.

You can also import a script from a file by clicking **Import** and selecting the file containing the script.

- 4. When you are done editing your script, click **Done Editing** to save.

If you want to export a script for use in other jobs or job templates, click **Export** and enter a file name for the script file.

3.8.2 Script Variables

The **Script Builder** provides a number of script variables that you can insert into your script. During script execution, Viewpoint replaces the variable with its current value. General patterns Viewpoint follows when replacing variables with current values is shown in the table below:

Text in Script Editor	Current Value of Variable	Text After Replacement
%VAR%	1	1
text%VAR%text	1	text1text
\%VAR%	1	\%VAR%
\\%VAR%	1	\1
%INVALID%	(Undefined variable)	%INVALID%
\%INVALID%	(Undefined variable)	%INVALID%
%VAR%VAR%	1	1VAR%
%VAR%%VAR%	1	11
%DURATION%	5 (Value set in one of the job template's widgets, such as the Time Management Duration widget)	5
%PATH%	/home/hpotter (Value of a path variable)	/home/hpotter
%DATE%	2024-03-15 11:00 UTC (Value of a date variable)	2024-03-15 11:00 UTC
%BOOL%	true (Value of a boolean variable)	true

Script variables in the **Script Builder** are categorized as Viewpoint Inputs, Moab HPC Suite Environment Variables, and Custom Inputs. **Viewpoint Inputs** are variables associated with the job.

Variable	Description
ACCOUNT	Account associated with the job.
ARCHITECTURE	Defines the system architecture required by the job. Example: x86_64.
DESTINATIONQUEUE	The destination queue or class of the job.
DURATION	The expected amount of time the job is expected to run.

Variable	Description
ELIGIBLEDATE	The time when the job is eligible for execution.
EMAILOPTIONS	A comma-delimited list of requested email options, expressed as key/value pairs. Example: 'START:TRUE,COMPLETION:FALSE,FAILURE:FALSE'
ENDINDEX	The end index of the job array.
ERRORPATH	The path to be used for the job's standard error stream.
EXECUTIONDIRECTORY	The job's execution directory.
FEATURESEXCLUDED	A comma-delimited list of feature tags representing features that cannot be present on the hardware on which the job will run. For example, 'feature1,feature2,feature3'.
FEATURESREQUESTED	A comma-delimited list of feature tags representing features that must be present on the hardware on which the job will run. For example, 'feature1,feature2,feature3'.
GENERICRESOURCES	A comma-delimited list of additional job attributes, expressed as key/value pairs. Example: 'ANSYS:3,MATLAB:4'
HOLD	Specifies that a user hold will be placed on the job when submitted.
JOIN	Specifies whether to merge the standard output and standard error streams.
MAILLIST	A comma- and quote-delimited list of email addresses to be notified in the event of job or system failures or under other general conditions. Overrides the EMAILADDRESS specified on the USERCFG [credential]. Example: 'luis@adaptivecomputing.com','sergeig@dsr-company.com'.
MEMORYAMOUNT	Defines the resources that are required by the job and establishes a limit to the amount of resource that can be consumed.
MOABENVIRONMENTVARIABLES	Specifies whether to push Moab environment variables to the job.

Variable	Description
MOABTEMPLATE	Specifies a MOAB job template to be used for the job.
NAME	Specifies a name for the job (must be alphanumeric).
NODEACCESSPOLICY	Specifies whether other tasks can execute on the job's compute node.
NODEALLOCATIONPOLICY	Specifies the criteria for determining whether a node is busy.
NODESREQUESTED	Specifies the exact set, superset, or subset of nodes on which the job must run.
NODESREQUESTEDPOLICY	Indicates an exact set, superset, or subset of nodes on which the job must run. Only relevant if NODESREQUESTED is provided.
NUMOFCORES	If 'Total Amount of Cores' is selected and total cores = 4, the value of the variable is 4. If 'Nodes with Core Count' is selected, total nodes = 2, and cores per node = 4, the value of the variable is 2:4.
OPERATINGSYSTEM	Specifies the job's required operating system.
OUTPUTPATH	Specifies the path to be used for the job's standard output stream.
QOS	Specifies the desired QoS for the job.
SHELL	The shell to execute the job script. Example: /bin/bash.
STARTINDEX	The start index of the job array.
USERPRIORITY	Specifies the priority at which the job is to run.

Moab Environment Variables are variable whose values Viewpoint uses when submitting a job to Moab HPC Suite.

Variable	Description
MOAB_ACCOUNT	Account name.

Variable	Description
MOAB_BATCH	Set if a batch job (non-interactive).
MOAB_CLASS	Class name.
MOAB_DEPEND	Job dependency string.
MOAB_GROUP	Group name.
MOAB_JOBID	Job ID.
MOAB_JOBNAME	Job name.
MOAB_MACHINE	Name of the machine (i.e., destination resource manager) on which the job is to run.
MOAB_NODECOUNT	Number of nodes allocated to the job.
MOAB_NODELIST	Comma-delimited list of nodes on which the job is to run.
MOAB_PARTITION	Partition name where the job is to run.
MOAB_PROCCOUNT	Number of processors allocated to the job.
MOAB_QOS	QoS name.
MOAB_SUBMITDIR	Directory from which the job is submitted.
MOAB_TASKMAP	Node list with tasks allocated to each node listed. <nodename>.<tasklist>
MOAB_USER	Username.

Custom Inputs are variables defined in the Custom Settings section of a job template. If you are creating a job template, Custom Inputs are variables you have defined. If you are creating a job, Custom Inputs are the variables defined by the designer of your selected job template. For example, the Nitro Application job template has a `TASKFILE` Custom Input variable that contains the name of the task file associated with the job.

Related Topics

- [3.7 Creating a Job](#)
- [4.4 Application Template Details](#)

3.9 Viewing Job Details

Viewpoint lets you view the job details for any job within your workload. This functionality uses both the **Workload** page and the **Job Details** page.

 The detailed information available for a job will vary. See [3.2 Job Details Page](#) for more information.

View Job Details

To do this, follow these steps.

1. Access the **Workload** page (click `Workload` from the menu.)
2. Enter the search and/or filter criteria as needed to limit the jobs displayed. See [3.1.2 Selection Criteria Area](#) for more information.
3. Click on the Job ID of the job for which you want to view details. The **Job Details** page displays and shows information about that job. For the **Job Details** page you can view and/or edit job information. See [3.2 Job Details Page](#) for more information.

Related Topics

- [3.1 Workload Page](#)
- [3.2 Job Details Page](#)
- [4.4 Application Template Details](#)

3.10 Changing a Job's State

Viewpoint lets you request a state change for non-completed jobs directly from the Workload view. For example, if a job is idle, you can request Moab to cancel the job.

To do this, follow these steps.

1. Display the Workload view (click `WORKLOAD` in the menu bar. Depending on your user credentials, you can also access the Workload view from the **Home** page).
2. In the workload view, hover your pointer over the Job ID for a non-completed job and click the  icon. Depending on the current state of the job, the available request options appear. For example, if the job state is IDLE, the Hold and Cancel options are displayed.
3. Select the desired change request option for the job. Once the state change request has been passed to Moab, a message appears indicating it has been changed, and the job's new state appears in the Job Status column.

Related Topics

- [3.1 Workload Page](#)

Chapter 4: Application Templates

Application templates are used to predefine the job requirements available to users when creating jobs. Specifically:

- The **Application Templates** page (default) lists the application templates available to you when creating a job. Depending on how the application template was set up, you can also make small changes to the application template at job submission.
- If your credentials include the Templates Admin permission you can view and edit every application template in your Viewpoint configuration. You can also create and import application templates using this page.

Viewpoint is delivered with several application templates that you can customize for your environment or to use as a guide for creating your own application templates. See [4.9 Provided Application Templates](#) for more information.

i The admin user (for example, moab-admin) can perform application template functions programmatically in Viewpoint; instead of using the **Application Templates** page in the portal. See [4.10 Application Template API](#).

In this chapter:

- [4.1 Application Templates Page](#)
- [4.2 Create Application Template Page](#)
- [4.3 Edit Application Template Page](#)
- [4.4 Application Template Details](#)
- [4.5 Creating an Application Template](#)
- [4.6 Editing an Application Template](#)
- [4.7 Importing an Application Template](#)
- [4.8 Managing Application Template History](#)
- [4.9 Provided Application Templates](#)
- [4.10 Application Template API](#)

4.1 Application Templates Page

The **Application Templates** page lets you manage application templates for your Viewpoint configuration. To access this page, click `TEMPLATES` from the menu.

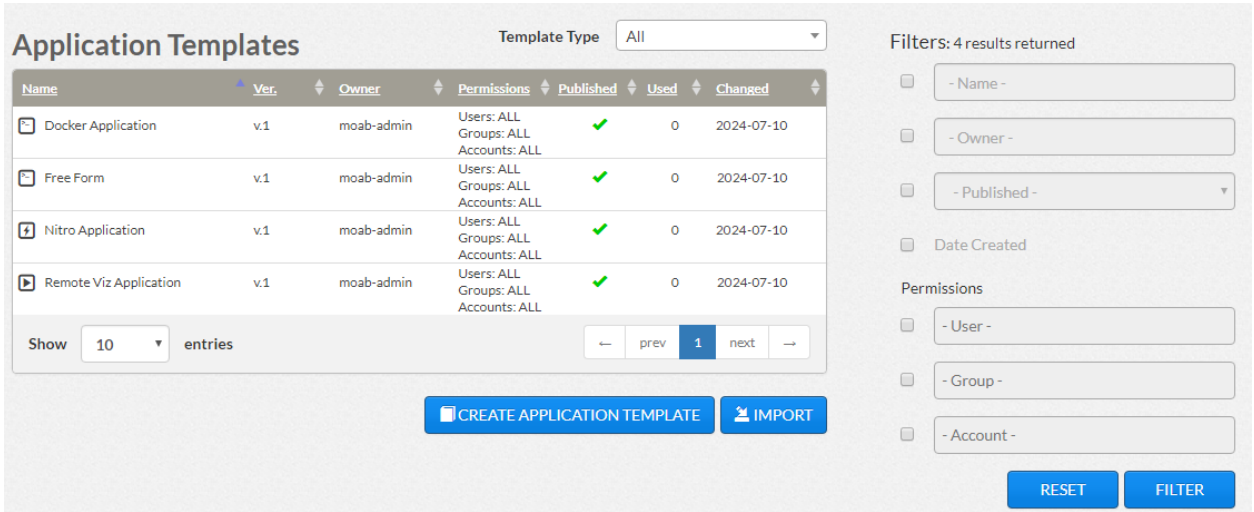
This topic provides an example of the **Application Templates** page and describes its layout and available information.

In this section:

- [4.1.1 Page Example](#)
- [4.1.2 Page Details](#)
- [4.1.3 Additional Functions](#)

4.1.1 Page Example

This is an example of the **Application Templates** page:



4.1.2 Page Details

This section describes the functional areas of the **Application Templates** page:

- [4.1.2.A New Application Template Creation](#)
- [4.1.2.B Filters](#)
- [4.1.2.C Application Templates List](#)

4.1.2.A New Application Template Creation

Viewpoint lets you create a new application template or import an existing application template you can use when creating jobs. To enable this functionality, two buttons are available towards the bottom of this page:

- `CREATE APPLICATION TEMPLATE` – Opens up a blank application template. See [4.5 Creating an Application Template](#).
- `IMPORT` – Opens up a pop-up window that lets you import an existing application template. See [4.7 Importing an Application Template](#).

4.1.2.B Filters

Filters let you specify what is displayed in the list of application templates on the main pane.

To use a filter, click the check box next to the filter to activate it, enter the information, and then click `Filter`. You can click `Reset` at any time to restore the page default view.

This table describes the different filters:

Filter	Description
Name	Name used to identify the application template.
Owner	The owner of the application template.
Published	Whether you want to display applications templates that are published <i>or</i> unpublished.
Date Created	Date range when the application template was created. When this filter is selected, additional fields appear letting you specify the date range.
User	Name of the user or users given permission to use this application template.
Group	User group given permission to use this application template.
Account	Account given permission to use this application template.

4.1.2.C Application Templates List

The main pane of the **Application Templates** page lists the application templates and their corresponding information in a column format.

 Column titles that are underlined indicate that you can sort (ascending or descending) the column contents.

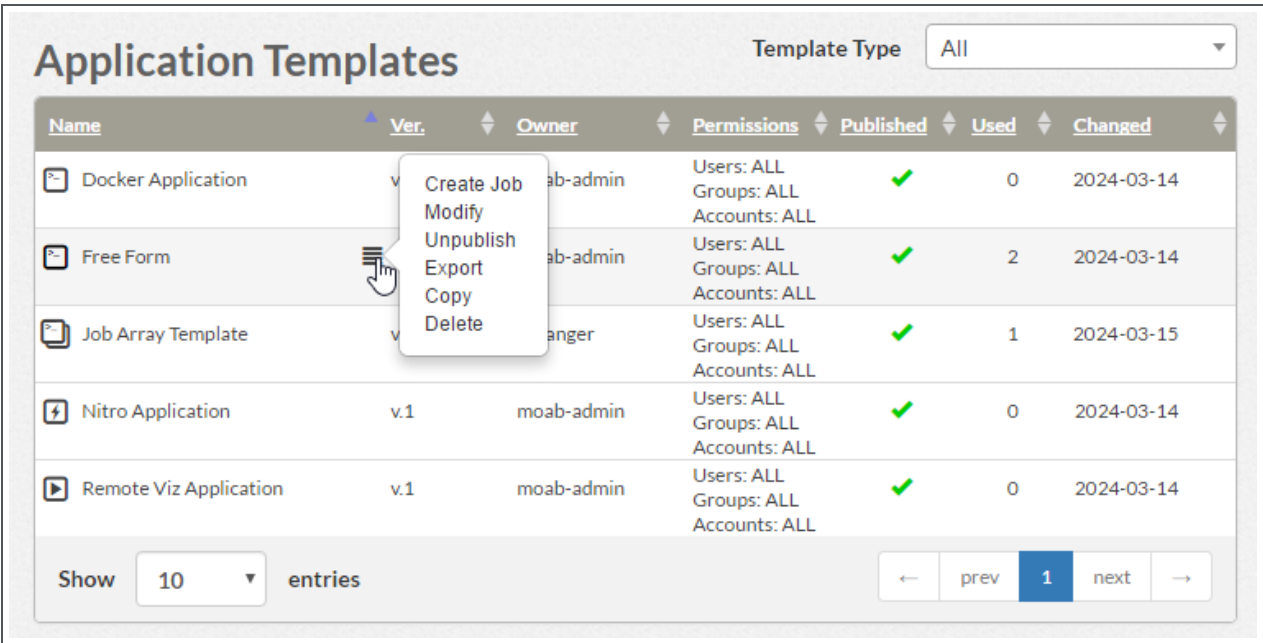
Page controls are available at the bottom of the application templates list to let you customize how many application templates appear at a time in the list. These controls also include options for moving between pages of listed application templates.

This table describes the different columns and their contents:

Column Heading	Description
Name	Name used to identify the application template. Click on the application template's name to open the application template and view additional information about the application template.
Version	The current version of the template.
Owner	Name of the individual who created the application template.
Permissions	User, Group, and Account permissions granted for this application template.
Published	Indicates whether the application template is published.
Used	Number of times the application template has been used (the number of jobs submitted using this application template).
Changed	Date when the application template was last changed.

4.1.3 Additional Functions

The **Application Templates** page also includes a pop-up menu with shortcuts to perform additional application template-related functions. To access the shortcuts, hover your pointer near the application template name to display , and then click this icon to display the pop-up menu:



Name	Ver.	Owner	Permissions	Published	Used	Changed
 Docker Application	v.1	moab-admin	Users: ALL Groups: ALL Accounts: ALL	✓	0	2024-03-14
 Free Form		moab-admin	Users: ALL Groups: ALL Accounts: ALL	✓	2	2024-03-14
 Job Array Template	v.1	manager	Users: ALL Groups: ALL Accounts: ALL	✓	1	2024-03-15
 Nitro Application	v.1	moab-admin	Users: ALL Groups: ALL Accounts: ALL	✓	0	2024-03-14
 Remote Viz Application	v.1	moab-admin	Users: ALL Groups: ALL Accounts: ALL	✓	0	2024-03-14

Show 10 entries

← prev 1 next →

From this pop-up menu, you can:

- Create a job using the template (if you have the necessary permissions).
- Open the **Edit Application Template** page to modify the application template.
- Toggle this application template between published and unpublished status.
- Export this application template.
- Copy this application template.
- Delete this application template.

 If you delete one of the templates provided with Viewpoint, you can restore the template on the **Application Template Configuration** page. See [1.8 Application Templates Configuration Page](#).

4.2 Create Application Template Page

The **Create Application Template** page lets you create application templates that users can use when creating jobs.

To access this page, click `TEMPLATE` from the menu to access the **Application Templates** page, and then click `CREATE APPLICATION TEMPLATE`.

This topic identifies how the **Create Application Template** page is organized and the fields and functions available when creating an application template.

In this section:

[4.2.1 Page Example](#)

[4.2.2 Page Actions and Navigation](#)

4.2.1 Page Example

This is an example of the **Create Application Template** page:

The screenshot shows the 'Create Application Template' interface. At the top, the title 'Create Application Template' is displayed, followed by the subtitle 'Untitled Application Template'. Below the subtitle, there are two main fields: 'Template Type' with a dropdown menu currently showing 'HPC Application', and 'Version Description' with an empty text input field. Underneath these, there is a section for 'Application Description' which includes a large text area for input and a 'Visible' checkbox to its right. Above the text area is a rich text editor toolbar with various icons for text formatting (bold, italic, strikethrough, text color), list creation (bulleted, numbered), linking, quoting, and inserting elements like tables and images.

This page is divided into several sections:

- General Information – Contains the application template name, template type, and version description.
- Permissions – Defines who is allowed to use the application template.
- Application Description – Contains a formatted text description of the application template that you can use to provide detailed instructions on how to use the application template.
- Basic Settings – Contains basic fields for defining Moab-related settings for jobs created with the application template.
- Advanced Settings – Contains additional fields for defining Moab-related settings for jobs created with the application template.
- Node Policies Settings – Contains fields for defining node policies for jobs created with the application template.
- Custom Settings – Contains fields for defining custom parameters for jobs created with the application template.

All sections except General Information and Permissions have editable name fields that make it possible for you to rename the section for the template you are creating. See [4.4 Application Template Details](#) for detailed information about each of these sections.

4.2.2 Page Actions and Navigation

These buttons let you perform actions on this page:

- EXPORT TEMPLATE – Export the current template for use.
- SAVE TEMPLATE – Save any changes made to the current template.
- SAVE AND CLOSE – Save any changes made to the current template and return to the **Application Templates** page.

At the right of the page there are two floating buttons that can be clicked to navigate to the top and the bottom of the page:

- Click  to navigate to the top of the page.
- Click  to navigate to the bottom of the page.

4.3 Edit Application Template Page

The **Edit Application Template** page lets you edit existing application templates that users can use when creating jobs.

To access this page, click `TEMPLATES` in the menu bar to access the **Application Templates** page, then click the name of an existing application template from the list of application templates.

This topic identifies how the **Edit Application Template** page is organized and the fields and functions available when editing an application template.

In this section:

[4.3.1 Page Example](#)

[4.3.2 Page Actions and Navigation](#)

4.3.1 Page Example

This is an example of the **Edit Application Template** page:

The screenshot shows the 'Edit Application Template' page for a template named 'Job Array'. The page has a light gray header with the title 'Edit Application Template' and the template name 'Job Array' in a larger, italicized font. Below the title, there are two input fields: 'Template Type' with a dropdown menu showing 'Job Array', and 'Version Description' with a text input containing 'Job Array, new submission script'. To the right of these fields is a blue button labeled 'HISTORY'. Below the header is a section for 'Application Description' with a text input field and a 'Visible' checkbox. The main content area is a rich text editor with a toolbar containing various formatting options like bold, italic, underline, link, and list. The text in the editor reads 'Job Array Application Template' followed by 'Fill in the inputs and press the "Create" button to submit your job.' The editor has a status bar at the bottom showing 'body p'.

This page is divided into several sections:

- General Information – Contains the application template name, template type, and version description.
- Permissions – Defines who is allowed to use the application template.

- **Application Description** – Contains a formatted text description of the application template that you can use to provide detailed instructions on how to use the application template.
- **Basic Settings** – Contains basic fields for defining Moab-related settings for jobs created with the application template.
- **Advanced Settings** – Contains additional fields for defining Moab-related settings for jobs created with the application template.
- **Node Policies Settings** – Contains fields for defining node policies for jobs created with the application template.
- **Custom Settings** – Contains fields for defining custom parameters for jobs created with the application template.

All sections except General Information and Permissions have editable name fields that make it possible for you to rename the section for the template you are editing. See [4.4 Application Template Details](#) for detailed information about each of these sections.

4.3.2 Page Actions and Navigation

These buttons let you perform actions on this page:

- **EXPORT TEMPLATE** – Export the current template for use.
- **SAVE TEMPLATE** – Save any changes made to the current template.
- **SAVE AND CLOSE** – Save any changes made to the current template and return to the **Application Templates** page.

At the right of the page there are two floating buttons that can be clicked to navigate to the top and the bottom of the page:

- Click  to navigate to the top of the page.
- Click  to navigate to the bottom of the page.

4.4 Application Template Details

This topic identifies how the application template information is organized and the fields and functions available when creating or editing an application template.

See [4.2 Create Application Template Page](#) for more information about creating application templates. See [4.3 Edit Application Template Page](#) for more information about editing application templates.

In this section:

[4.4.1 Application Template Name](#) – Identifies the name for the application template.

[4.4.2 Application Template Type](#) – Identifies the type for the application template.

[4.4.3 Available Fields](#) – Provides information on the available fields and how the fields are organized.

[4.4.4 Field Information and Actions](#) – Provides a general explanation of the field functions; including how to show or hide fields.

[4.4.5 Application Template Permissions](#) – Provides information on how to restrict the users who have access to this application template.

[4.4.6 Published/Unpublished Application Template](#) – Provides information regarding the difference between published and unpublished application templates.

[4.4.7 Job Submission Script](#) – Explains how to access and use the Script Builder window to manage the job submission script for the application template.

[4.4.8 Application Template History](#) – Identifies the version for the application template. Provides information on saving a template as a new view version, viewing a template's history, and reverting to previous template versions.

4.4.1 Application Template Name

The name of the application template appears towards the top of this page. Using the example in this topic, the application template title is 'Untitled Application Template'. The application template name is displayed in the application template list shown on the **Application Templates** page.

To edit the template name, click on the name label and enter the desired name.

4.4.2 Application Template Type

Directly under the application template name, you can specify the application template type. To choose, select one of the options from the drop-down menu. The available application template types are:

- HPC Application
- Job Array
- Nitro Application

When editing an existing application template, you can modify the application template to create job arrays by changing the application template type to Job Array.

4.4.3 Available Fields

The available fields used for creating/editing application templates are grouped into five areas, specifically:

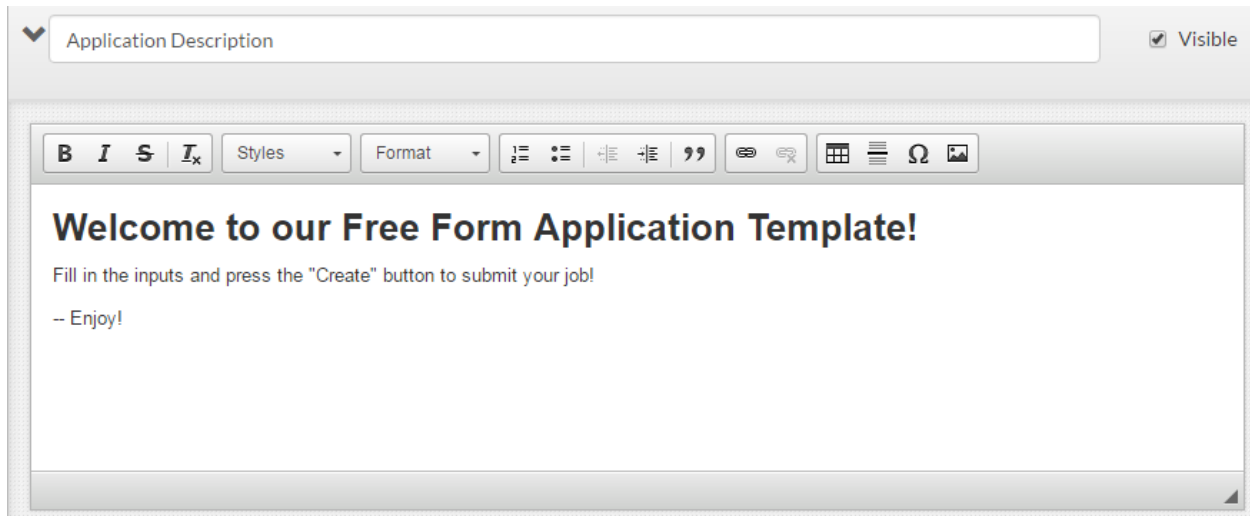
- [4.4.3.A Application Description](#)
- [4.4.3.B Basic Settings](#)
- [4.4.3.C Advanced Settings](#)
- [4.4.3.D Node Policy Settings](#)
- [4.4.3.E Custom Settings](#)

Expand an area to view its fields. This section provides information on these different areas and their associated fields. See [4.4.4 Field Information and Actions](#) for information on using the fields.

4.4.3.A Application Description

This area lets you provide a description for your application template. Use this area to tell users any necessary information to use or access this application template. This field provides multiple options for styling and formatting, among other ways to make your description more detailed.

This shows the **Application Description** area:



4.4.3.B Basic Settings

This area, as well as the **Advanced Settings** area, contains Moab-specific input for the job. If the template will be used for creating job arrays, the **Basic Settings** area also specifies

starting and ending job indexes. This area breaks the basic setting information into functional groups. The information will also be grouped similarly on the **Job Details** page.

These are examples of the functional groups:

- Basic Job – contains settings for basic information like the name assigned to jobs created with this template and the submission script used to submit jobs. See [4.4.7 Job Submission Script](#) for more information about creating a job submission script.

The image shows a web form titled "Basic Job Settings". It is divided into two main sections by dashed lines. The first section contains three input fields: "Label" with the value "Name", "Variable Name" with the value "NAME", and "Default Value" which is empty. Below these fields are three checked checkboxes: "Enabled", "Visible", and "Editable". The second section contains three input fields: "Label" with the value "Submission Script", "Variable Name" with the value "SCRIPT", and "Default Value" with a button labeled "Customize Script". Below these fields are two unchecked checkboxes: "Visible" and "Editable".

Basic Job Settings	
Label	Name
Variable Name	NAME
Default Value	
☒ Enabled	☒ Visible
☒ Editable	
Label	Submission Script
Variable Name	SCRIPT
Default Value	Customize Script
☐ Visible	☐ Editable

- If the Template Type for the application template is set to **Job Array**, the **Basic Settings** area also contains settings for job indexes:

The screenshot shows a configuration panel for a 'Job Array' template. It contains the following fields and controls:

- Label:** A text field containing 'Job Arrays'.
- Min Variable Name:** A text field containing 'STARTINDEX'.
- Min Default Value:** A numeric field containing '0' with up and down arrow buttons.
- Max Variable Name:** A text field containing 'ENDINDEX'.
- Max Default Value:** A numeric field containing '1' with up and down arrow buttons.
- Visible:** An unchecked checkbox.
- Editable:** An unchecked checkbox.

- Time Management – contains delay start and job duration settings:

Time Management

Label

Duration

Variable Name

DURATION

Default Value

☒ Enabled

☒ Visible

☒ Editable

Label

Delay Start By

Variable Name

ELIGIBLEDATE

Default Value

☐ Enabled

☐ Visible

☐ Editable

- Credentials – settings for specifying job ownership, resource usage, policy enforcement, etc.:

The screenshot shows a window titled "Credentials" with a light gray background. Inside, there are three dashed-line boxes, each representing a credential entry. Each entry has a "Label" field, a "Variable Name" field, and two checkboxes: "Enabled" and "Visible".

Label	Variable Name	Enabled	Visible
Account	ACCOUNT	☒	☒
Quality of Service	QOS	☒	☒
Queue / Class	DESTINATIONQUEUE	☒	☒

- Resources – contains architecture, memory, and core settings:

Resources

Label

Number of Cores

Variable Name

NUMOFCORES

Total Amount of Cores

☒ Visible

☒ Editable

Total Cores

1

↑

↓

Nodes With Core Count

☒ Visible

☒ Editable

Total Nodes

1

↑

↓

Cores Per Node

1

↑

↓

Malleable Core Count

☐ Visible

☐ Editable

Minimum Cores

1

↑

↓

Maximum Cores

2

↑

↓

☒ Enabled

Label

Total Memory (GB)

Variable Name

MEMORYAMOUNT

Total Memory

☒ Visible

☐ Editable

Default Value

0.50

↑

↓

Memory per Core

☒ Visible

☐ Editable

Default Value

0.50

↑

↓

☒ Enabled

Label

Architecture

Variable Name

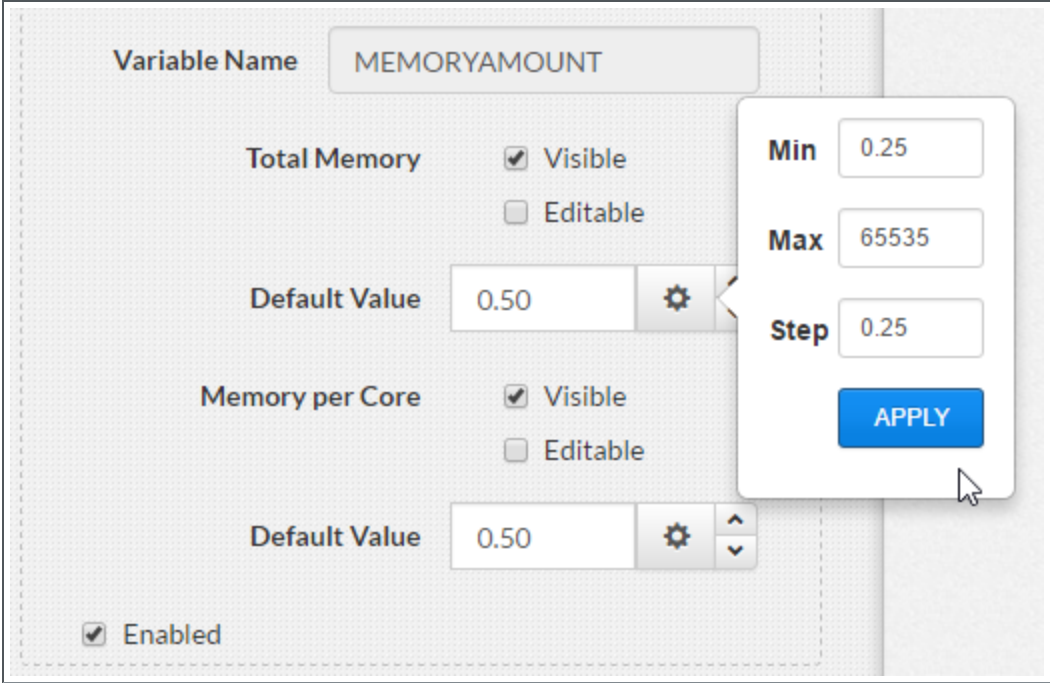
ARCHITECTURE

Default Value

☒ Enabled ☒ Visible ☒ Editable

Use the up and down arrows to increment or decrement the resource values.

Click the settings icon  to set minimum, maximum, and step values to be used when incrementing and decrementing the resource setting:



The screenshot shows the configuration interface for a variable named **MEMORYAMOUNT**. The interface includes several settings:

- Variable Name:** MEMORYAMOUNT
- Total Memory:** ☒ Visible, ☐ Editable
- Default Value:** 0.50, with a settings icon 
- Memory per Core:** ☒ Visible, ☐ Editable
- Default Value:** 0.50, with a settings icon  and increment/decrement arrows
- Enabled:** ☒ Enabled

A settings popup is open, displaying the following values:

- Min:** 0.25
- Max:** 65535
- Step:** 0.25
- APPLY** button

- Data Management – settings for job execution directory, output, and error reporting. Check the `Use execution path` check box to use the execution path for the output path or error path:

Data Management

Label
Execution Path

Variable Name
EXECUTIONDIRECTORY

☒ Enabled
☒ Visible

Label
Output Path

Variable Name
OUTPUTPATH

☒ Enabled
☒ Visible
☒ Use execution path

Label
Error Path

Variable Name
ERRORPATH

☒ Enabled
☒ Visible
☒ Use execution path

4.4.3.C Advanced Settings

This area contains advanced inputs that can be requested to Moab for the job, such as whether to include Moab environment variables at job submission time. You can also define job environment variables that can be used when creating submission scripts.

This is an example of the **Advanced Settings** area:

Advanced Settings

Label Merge Streams

Variable Name JOIN

Default Value No

☐ Enabled ☐ Visible ☐ Editable

Label Hold Job

Variable Name HOLD

Default Value No

☐ Enabled ☐ Visible ☐ Editable

Label Script Shell

Variable Name SHELL

Default Value

☐ Enabled ☐ Visible ☐ Editable

Label Generic Resources

Variable Name GENERICSOURCES

Default Value

Name	Count	Type
No required generic resources		

☐ Enabled ☐ Visible ☐ Editable

Label Job Env Variables

Default Value

Key	Value
No environment variables set	

☐ Enabled ☐ Visible ☐ Editable

Label Operating System

Variable Name OPERATINGSYSTEM

Default Value

☐ Enabled ☐ Visible ☐ Editable

Label Moab Environment Variables

Variable Name MOABENVIRONMENTVARIAB

Default Value Yes

☒ Enabled ☐ Visible ☐ Editable

Label Email Options

Variable Name EMAILOPTIONS

☐ Enabled ☐ Visible

Label Email Notification List

Variable Name MAILLIST

☐ Enabled ☐ Visible

Label User Priority

Variable Name USERPRIORITY

Default Value 0

☐ Enabled ☐ Visible ☐ Editable

Label Requested Features

Variable Name FEATURESREQUESTED

Default Value None

☐ Enabled ☐ Visible ☐ Editable

Label Excluded Features

Variable Name FEATURESEXCLUDED

Default Value Current feature

☐ Enabled ☐ Visible ☐ Editable

Label Moab Job Template

Variable Name MOABTEMPLATE

Default Value None

☐ Enabled ☐ Visible ☐ Editable

i When enabled, the `User Priority` field requires the Moab `ENABLENEGJOBPRIORITY` server parameter to be set to `TRUE`. This Moab parameter should have been set when Viewpoint was installed. See 'Moab Parameters' in the *Moab Workload Manager Administrator Guide* for more information on this parameter.

4.4.3.D Node Policy Settings

This area contains policies that can be requested to Moab for the job, such as whether to include Moab environment variables at job submission time. This is an example of the **Node Policies Settings** area:

The screenshot displays the 'Node Policies Settings' section, which contains four distinct policy configuration panels arranged in a 2x2 grid. Each panel includes a 'Label' field, a 'Variable Name' field, a 'Default Value' dropdown menu, and three checkboxes for 'Enabled', 'Visible', and 'Editable'.

- Top Left Panel:**
 - Label: Node Requested Policy
 - Variable Name: NODESREQUESTEDPOLICY
 - Default Value: Exact Set
 - Enabled: ☐ Visible: ☐ Editable: ☐
- Top Right Panel:**
 - Label: Node Access Policy
 - Variable Name: NODEACCESSPOLICY
 - Default Value: Shared
 - Enabled: ☐ Visible: ☐ Editable: ☐
- Bottom Left Panel:**
 - Label: Nodes Requested List
 - Variable Name: NODESREQUESTED
 - Default Value: (empty field)
 - Enabled: ☐ Visible: ☐ Editable: ☐
- Bottom Right Panel:**
 - Label: Node Allocation Policy
 - Variable Name: NODEALLOCATIONPOLICY
 - Default Value: First Available
 - Enabled: ☐ Visible: ☐ Editable: ☐

4.4.3.E Custom Settings

This area lets you add any custom settings to a template:

The screenshot shows the 'Custom Settings' section, which features a header bar with a dropdown menu labeled 'Custom Settings'. Below this, there are three large, light gray buttons arranged horizontally, each with a plus sign icon and a label: '+ Left', '+ Center', and '+ Right'.

You can add new custom settings widgets by clicking Left, Fill, or Right to specify whether the widget is to appear in the left column, right column, or fill both columns.

When you add a custom setting, you can then specify the control that will be displayed to set the custom setting's value, a label to be displayed on the control, a variable name, and default value for the variable:

The image shows a configuration form for a custom setting. It has a dashed border and a light gray background. The form contains the following fields and controls:

- Type:** A dropdown menu with "Text Box" selected.
- Label:** An empty text input field.
- Variable Name:** An empty text input field.
- Default Value:** An empty text input field.
- Visible:** A checked checkbox.
- Editable:** A checked checkbox.
- Required:** A checked checkbox.
- Delete:** A button with a trash icon and the text "Delete".

Depending on the type of control you select, other settings may be required.

4.4.4 Field Information and Actions

This section describes the different information and actions available for the fields in the **Basic Settings**, **Advanced Settings**, and **Custom Settings** areas of the application template:

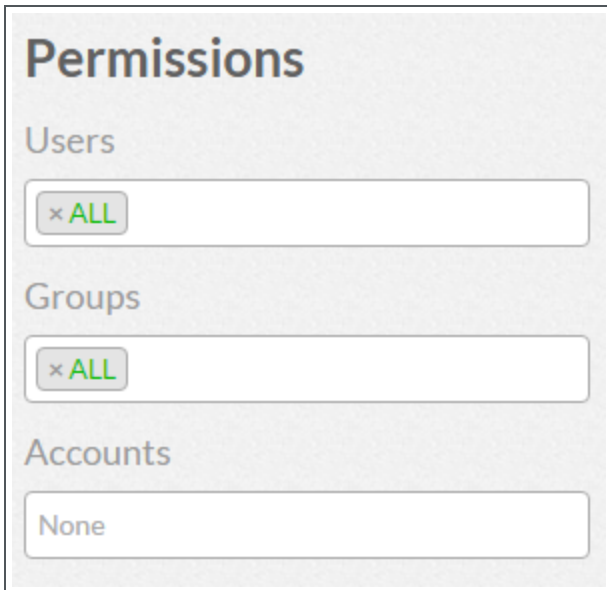
- **Label** – User-friendly name shown for the field on the **Create/Edit Job** page. This is typically similar to the variable name.
- **Variable Name** – Actual name of the variable widget that will contain the user's input. For Basic and Advanced Settings areas, this is the Moab variable for that field and cannot be changed. For the **Custom Settings** area, this variable can be any name that does not conflict with a Moab input variable. See [4.4.7 Job Submission Script](#) for a list of Moab variable widgets.
- **Default Value** – Lets you specify a default value that will be used when creating/editing a job. Depending on the type of variable for this field, this can be a selection list, a drop-down to select a date/time, or a space to write in the value. If it is a date/time or write-in value, leave this empty if you do not want to assign a default value to the widget's variable and input fields.

- **Enabled, Visible, Editable check boxes** – These three check boxes control if and how fields are used in the application template:
 - **Enabled** – When checked, this field is activated; meaning that this information is reported. At this time, only two fields (`Job Arrays` and `User Priority`) require activation. If `Job Arrays` is enabled, then only job arrays can be created using this application template. If `User Priority` is enabled, users are able to make changes to the user priority information for the job (this option requires additional configuration, see [4.4.3.C Advanced Settings](#)).
 - **Visible** – When checked, this field will be displayed on the **Create/Edit Job** page. This check box requires the `Enabled` check box, if present, to be checked.
 - **Editable** – When checked, users can provide information for this field when creating/editing a job. This check box requires the `Visible` check box to be checked.

4.4.5 Application Template Permissions

In addition to being able to restrict which fields the user can see or edit, you can also restrict who has access to the application template itself. This is done using the **Permissions** area at the top right of the page.

This is an example of the **Permissions** area:



The screenshot shows a 'Permissions' panel with three sections: 'Users', 'Groups', and 'Accounts'. Each section has a text input field with a small 'x ALL' button on the left. The 'Users' and 'Groups' fields are currently empty, while the 'Accounts' field contains the text 'None'.

Using this area, you can restrict access by:

- **Users.** In the `Users` field, type the IDs of the users. Viewpoint will check if the users you added are valid; that is, has a valid operating system account. If the user is valid, the username turns green; otherwise, it turns red. Use 'ALL' to remove restrictions.
- **Group associations.** In the `Groups` field, type the IDs of the groups. Viewpoint will check if the groups you added are valid; that is, has a valid operating system account. If the group is valid, the group ID turns green; otherwise, it turns red. Use 'ALL' to remove restrictions.
- **Account associations.** In the `Accounts` field, select from the available accounts listed in the drop-down. Leave blank to remove restrictions.

4.4.6 Published/Unpublished Application Template

Viewpoint also lets you configure whether this application template is available (published) for use.

i When an application template is marked 'Unpublished' only the creator of the application template or template admins can view/edit the application template; regardless of the Permissions settings. In addition, the application template does not appear in the application templates list when a user creates a job.

On the **Create/Application Template** page, under the **Permissions** area, select the appropriate option button for the publish status.

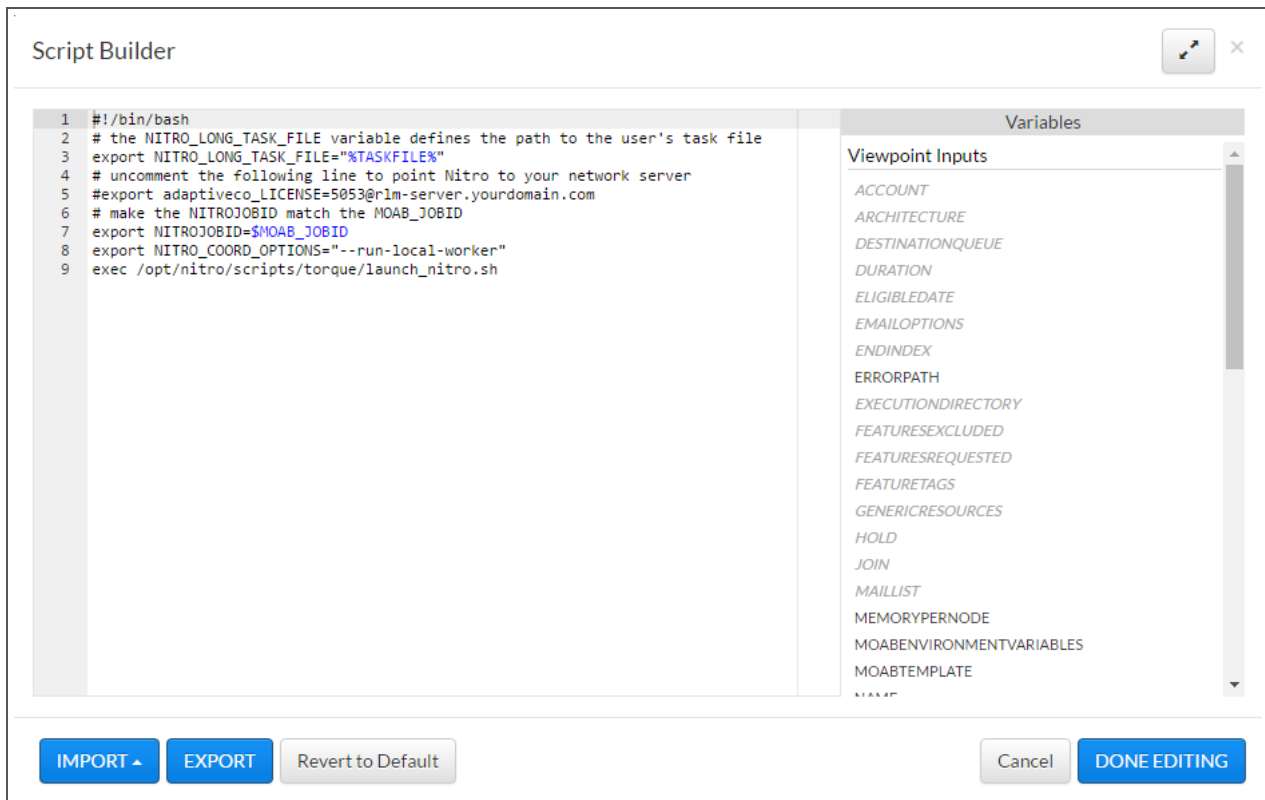
You can also change the publish status directly from the drop-down menu on the **Application Templates** page. See [4.1.3 Additional Functions](#).

4.4.7 Job Submission Script

Viewpoint provides a Submission Script widget on the **Application Template Details** page (in the **Basic Job Settings** area). This widget provides a **Script Builder** window where you can create/edit, upload, or export the script information.

i In order for users to submit jobs using the application template, the application template must have a defined job submission script. As with any field in the application template, you can choose whether to make the script visible and editable by the user when creating a job.

Click **Customize Script** (located in the **Default Value** area in the Submission Script field) to access the **Script Builder** window:



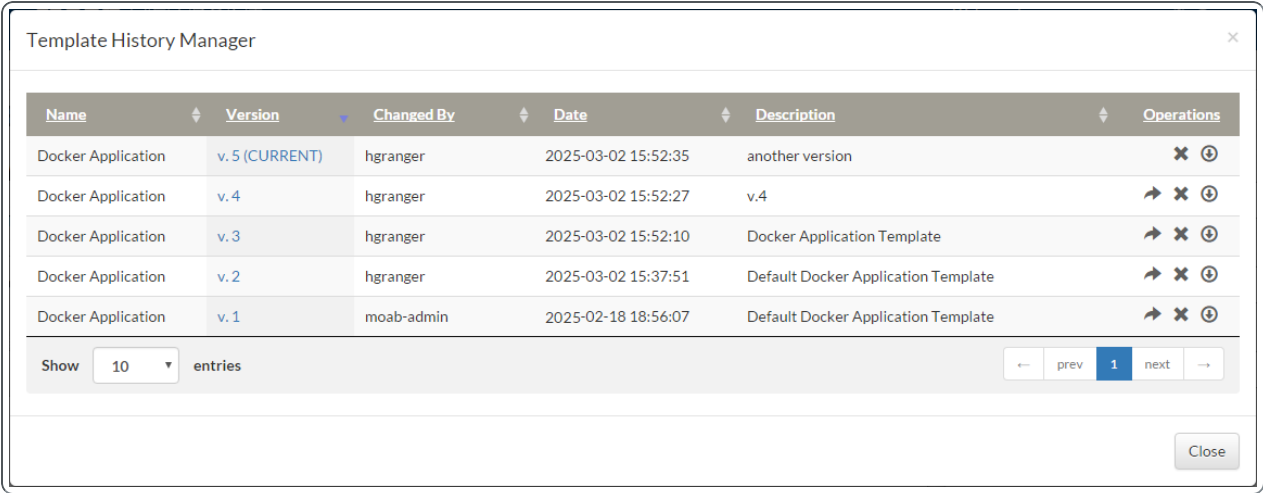
Using this window, you can:

- Create/edit a script.
 1. Add/edit the lines for the script in the left pane:
 - You can drag and drop the available variables from the right pane into the left pane. Hover your pointer over the variable to view its description. The right pane includes variables defined in the **Advanced Settings** area. When used in the script, the variables shown on the right pane are highlighted, and the number of times the variable is used in this script is displayed.
 - From inside the left pane, press Ctrl+Space to access a list of variables. You can select the variables directly in this list instead of having to drag them from the right pane.
 2. Click **DONE EDITING** to save the script and close the window.
- Import an existing script. You can import a script from your local computer or from your RFS.
- Export the script. Exporting a script lets you export a copy of your script to your RFS. Then you can import the script for application templates to use.

See [3.8 Creating or Editing a Job Submission Script](#) for more information about creating and editing job submission scripts.

4.4.8 Application Template History

Viewpoint creates a new version of the application template every time you edit an application template. The Template History Manager window displays a history of the versions and lets you manage the versions. Once an application template has been edited and saved, the next time you go to edit the template, a History button is provided. Click this button to view the **Template History Manager** window:



The Template History Manager window displays a list of the different versions for the application template in a column format and provides operations for managing the versions of an application template. The following table describes the different columns and their contents.

i Column titles that are underlined indicate that you can sort (ascending or descending) the column contents.

Column Head- ing	Description
Name	Name used to identify the application template.
Version	The version number for the version of the application template.
Changed By	Name of the user who last edited the application template.

Column Heading	Description
Description	A description of the application template version.
Operations	Icons representing operations that can be performed on the application template version:  – Makes this version of the application template the current version.  – Deletes this version of the application template.  – Exports this version of the application template.

4.5 Creating an Application Template

Viewpoint lets you create application templates to define settings associated with jobs that will be created using the template.

To create an application template, do the following.

1. Access the **Application Templates** page (click `TEMPLATES` in the menu bar).
2. Click `CREATE APPLICATION TEMPLATE` to create a new application template. The **Create Application Template** page displays with the application template fields.
3. Click the default template name, 'Untitled Application Template', enter a new template name, and click `Save`. See [4.4.1 Application Template Name](#) for more information.
4. Select a template type from the `Template Type` drop-down menu. See [4.4.2 Application Template Type](#) for more information.
5. Enter a version description in the `Version Description` field. See [4.4.8 Application Template History](#) for more information.
6. In the `Permissions` section, do *one* of the following:
 - If you want to let others to use the template, add the users, groups, or accounts who can use the template and click the `Published` option button.
 - If you do not want others to use the template, click the `Unpublished` option button.

See [4.4.5 Application Template Permissions](#) for more information.

7. Enter a description of the template in the `Application Description` section. See [4.4.3.A Application Description](#) for more information.

8. Use the fields in the Basic Settings section to define the Moab-related settings for jobs created with your application template. See [4.4.3.B Basic Settings](#) for more information.
9. Use the fields in the Advanced Settings section to define additional settings for jobs created with your application template. See [4.4.3.C Advanced Settings](#) for more information.
10. Use the fields in the Node Policy Settings section to define node policy settings for jobs created with your application template. See [4.4.3.D Node Policy Settings](#) for more information.
11. Use the controls in the Custom Settings section to define custom parameters for jobs created with your application template. See [4.4.3.E Custom Settings](#) for more information.
12. Do one of the following:
 - Click `SAVE TEMPLATE` to save the application template and stay on this page.
 - Click `SAVE AND CLOSE` to save the application template and close this page.

4.6 Editing an Application Template

Viewpoint lets you edit an existing application template to change settings associated with jobs that will be created using the template.

To edit an application template, do the following.

1. Access the **Application Templates** page (click `TEMPLATES` in the menu bar).
2. Do one of the following:
 - If you want to edit the current version of an application template, click on the name of the application template you want to edit in the list of existing application templates to edit the application template.

If you are not editing the latest version of the template, the **Edit Application Template** page displays a warning and gives you options to restore the version you are editing, edit the latest version, or return to the version history.

- If you want to edit a previous version of an application template, use the Template History Manager. See [4.4.8 Application Template History](#) for more information.

The **Edit Application Template** page displays with the application template fields.

3. Click the default template name, 'Untitled Application Template', enter a new template name, and click `Save`. See [4.4.1 Application Template Name](#) for more information.

4. Select a template type from the `Template Type` drop-down menu. See [4.4.2 Application Template Type](#) for more information.
5. Enter a version description in the `Version Description` field. See [4.4.8 Application Template History](#) for more information.
6. In the `Permissions` section, do one of the following:
 - If you want to let others to use the template, add the users, groups, or accounts who can use the template and click the `Published` option button.
 - If you do not want others to use the template, click the `Unpublished` option button.See [4.4.5 Application Template Permissions](#) for more information.
7. Enter a description of the template in the `Application Description` section. See [4.4.3.A Application Description](#) for more information.
8. Use the fields in the `Basic Settings` section to define the Moab-related settings for jobs created with your application template. See [4.4.3.B Basic Settings](#) for more information.
9. Use the fields in the `Advanced Settings` section to define additional settings for jobs created with your application template. See [4.4.3.C Advanced Settings](#) for more information.
10. Use the fields in the `Node Policy Settings` section to define node policy settings for jobs created with your application template. See [4.4.3.D Node Policy Settings](#) for more information.
11. Use the controls in the `Custom Settings` section to define custom parameters for jobs created with your application template. See [4.4.3.E Custom Settings](#) for more information.
12. Do one of the following:
 - Click `SAVE TEMPLATE` to save the application template and stay on this page.
 - Click `SAVE AND CLOSE` to save the application template and close this page.

4.7 Importing an Application Template

Viewpoint lets you import an existing application template to use when creating jobs. You can import a single application template or multiple application templates at the same time.

To import an application template, do the following.

1. Access the **Application Templates** page (click `TEMPLATES` in the menu bar).

2. Click **IMPORT**. The **Import Template** pop-up window appears:



3. Click **BROWSE** and navigate to where the application template file is saved. You can select multiple application template files by pressing **Shift** and then clicking on each file.
4. Once you have chosen which files to include, click **Open**.
5. When the application template appears in the **Import Template** window, click **IMPORT**. The application template appears in the application template list and can be edited as needed.

4.8 Managing Application Template History

Viewpoint creates a new version of an application template every time you open and save an application template from the **Edit Application Template** page.

To manage the history for the application template, do the following.

1. Access the **Application Templates** page (click **Template** from the menu).
2. From the list of templates, select the application template for which you want to manage the application template version. The **Edit Application** page displays.
3. Click **History**. The **Template History Version** page appears.
4. In the row containing the version number you want to manage, do the following, as needed:
 - Click the description of an application template version to change its description.
 - Click  to make this version of the application template to be the current version.
 - Click  to delete this version of the application template.
 - Click  to export this version of the application template.

4.9 Provided Application Templates

Viewpoint comes configured with several application templates that you can customize for your environment. The available templates are:

- Free Form – Basic application template for creating jobs and job arrays.
- Nitro Application – Template for specifying settings and the task file to create Nitro jobs.

If you delete one of the provided templates, you can redeploy it from the **Application Templates Configuration** page. See [1.8 Application Templates Configuration Page](#).

In this section:

[4.9.1 Free Form Application Template](#)

[4.9.2 Nitro Application Template](#)

4.9.1 Free Form Application Template

The Free Form Application Template is a basic application template for creating HPC jobs and job arrays.

In this topic:

[4.9.1.A Available Fields](#)

[4.9.1.B Application Description](#)

[4.9.1.C Basic Settings](#)

[4.9.1.D Advanced Settings](#)

[4.9.1.E Node Policy Settings](#)

[4.9.1.F Custom Settings](#)

4.9.1.A Available Fields

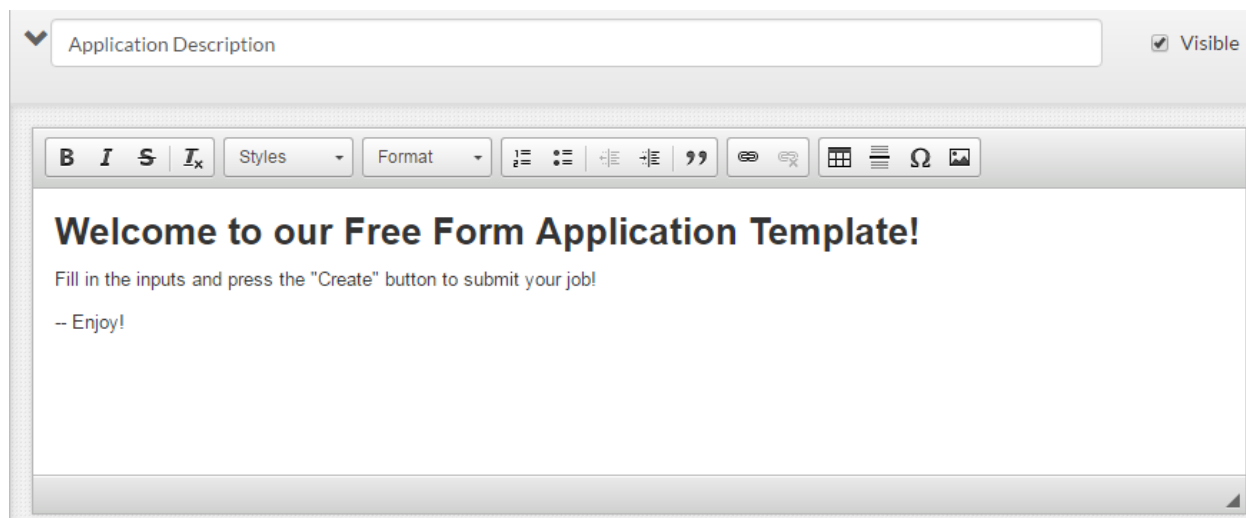
The available fields used for creating/editing the Free Form application template are grouped into the five areas described below.

Expand an area to view its fields. This section provides information on these different areas and their associated fields. See [4.4.4 Field Information and Actions](#) for information on using the fields.

4.9.1.B Application Description

This area lets you provide a description for your application template. Use this area to tell users any necessary information to use or access this template. This field provides multiple options for styling and formatting, among other ways to make your description more detailed.

This shows the **Application Description** area:



4.9.1.C Basic Settings

This area, as well as the **Advanced Settings** area, contains Moab-specific input for the job. This area breaks the basic setting information into functional groups.

These are examples of the functional groups:

- Basic Job Settings – contains settings for basic information like the name assigned to jobs created with this template and the submission script used to submit jobs:

Basic Job Settings

Label

Name

Variable Name

NAME

Default Value

☒ Enabled

☒ Visible

☒ Editable

Label

Submission Script

Variable Name

SCRIPT

Default Value

Customize Script

☐ Visible

☐ Editable

- If the Template Type for the application template is set to **Job Array**, the **Basic Job Settings** area also contains settings for job indexes:

The screenshot displays a configuration panel for a 'Job Array' template. It features five input fields arranged vertically, each with a label to its left. The 'Label' field contains 'Job Arrays'. The 'Min Variable Name' field contains 'STARTINDEX'. The 'Min Default Value' field contains '0' and has a small vertical spinner on its right. The 'Max Variable Name' field contains 'ENDINDEX'. The 'Max Default Value' field contains '1' and also has a small vertical spinner on its right. At the bottom of the panel, there are two checkboxes: 'Visible' and 'Editable', both of which are currently unchecked. The entire panel has a light gray background with a dashed border.

Label	Job Arrays
Min Variable Name	STARTINDEX
Min Default Value	0
Max Variable Name	ENDINDEX
Max Default Value	1
☐ Visible ☐ Editable	

- Time Management – contains delay start and job duration settings:

Time Management

Label

Duration

Variable Name

DURATION

Default Value

☒ Enabled

☒ Visible

☒ Editable

Label

Delay Start By

Variable Name

ELIGIBLEDATE

Default Value

☐ Enabled

☐ Visible

☐ Editable

- Credentials – settings for specifying job ownership, resource usage, policy enforcement, etc.:

The screenshot shows a window titled "Credentials" with a light gray background. It contains three distinct sections, each enclosed in a dashed border. Each section has a "Label" field, a "Variable Name" field, and two checkboxes labeled "Enabled" and "Visible".

Label	Variable Name	Enabled	Visible
Account	ACCOUNT	☒	☒
Quality of Service	QOS	☒	☒
Queue / Class	DESTINATIONQUEUE	☒	☒

- Resources – contains architecture, memory, and core settings:

Resources

Label

Number of Cores

Variable Name

NUMOFCORES

Total Amount of Cores

☒ Visible

☒ Editable

Total Cores

1

↑

↓

Nodes With Core Count

☒ Visible

☒ Editable

Total Nodes

1

↑

↓

Cores Per Node

1

↑

↓

Malleable Core Count

☐ Visible

☐ Editable

Minimum Cores

1

↑

↓

Maximum Cores

2

↑

↓

☒ Enabled

Label

Total Memory (GB)

Variable Name

MEMORYAMOUNT

Total Memory

☒ Visible

☐ Editable

Default Value

0.50

↑

↓

Memory per Core

☒ Visible

☐ Editable

Default Value

0.50

↑

↓

☒ Enabled

Label

Architecture

Variable Name

ARCHITECTURE

Default Value

☒ Enabled ☒ Visible ☒ Editable

- Data Management – settings for job execution directory, output, and error reporting:

Data Management

Label

Execution Path

Variable Name

EXECUTIONDIRECTORY

☒ Enabled ☒ Visible

Label

Output Path

Variable Name

OUTPUTPATH

☒ Enabled ☒ Visible ☒ Use execution path

Label

Error Path

Variable Name

ERRORPATH

☒ Enabled ☒ Visible ☒ Use execution path

4.9.1.D Advanced Settings

This area contains advanced inputs to Moab that can be requested for the job, such as whether to include Moab environment variables at job submission time.

This is an example of the **Advanced Settings** area:

Advanced Settings

Label Merge Streams

Variable Name JOIN

Default Value No

☐ Enabled ☐ Visible ☐ Editable

Label Hold Job

Variable Name HOLD

Default Value No

☐ Enabled ☐ Visible ☐ Editable

Label Script Shell

Variable Name SHELL

Default Value

☐ Enabled ☐ Visible ☐ Editable

Label Generic Resources

Variable Name GENERICRESOURCES

Default Value

Name	Count	Type
No required generic resources		

☐ Enabled ☐ Visible ☐ Editable

Label Job Env Variables

Default Value

Key	Value
No environment variables set	

☐ Enabled ☐ Visible ☐ Editable

Label Operating System

Variable Name OPERATINGSYSTEM

Default Value

☐ Enabled ☐ Visible ☐ Editable

Label Moab Environment Variables

Variable Name MOABENVIRONMENTVARIAB

Default Value Yes

☒ Enabled ☐ Visible ☐ Editable

Label Email Options

Variable Name EMAILOPTIONS

☐ Enabled ☐ Visible

Label Email Notification List

Variable Name MAILLIST

☐ Enabled ☐ Visible

Label User Priority

Variable Name USERPRIORITY

Default Value 0

☐ Enabled ☐ Visible ☐ Editable

Label Requested Features

Variable Name FEATURESREQUESTED

Default Value None

☐ Enabled ☐ Visible ☐ Editable

Label Excluded Features

Variable Name FEATURESEXCLUDED

Default Value Current feature

☐ Enabled ☐ Visible ☐ Editable

Label Moab Job Template

Variable Name MOABTEMPLATE

Default Value None

☐ Enabled ☐ Visible ☐ Editable

i When enabled, the User Priority field requires the Moab ENABLENEGJOBPRIORITY server parameter set to TRUE. This Moab parameter should have been set when Viewpoint was installed. See 'Moab Parameters' in the *Moab Workload Manager Administrator Guide* for more information on this parameter.

4.9.1.E Node Policy Settings

This area specifies node request, access, and allocation policies for jobs created with this template. This is an example of the **Node Policies Settings** area:

Node Policies Settings

Label

Node Requested Policy

Variable Name

NODESREQUESTEDPOLICY

Default Value

Exact Set

☐ Enabled

☐ Visible

☐ Editable

Label

Node Access Policy

Variable Name

NODEACCESSPOLICY

Default Value

Shared

☐ Enabled

☐ Visible

☐ Editable

Label

Nodes Requested List

Variable Name

NODESREQUESTED

Default Value

☐ Enabled

☐ Visible

☐ Editable

Label

Node Allocation Policy

Variable Name

NODEALLOCATIONPOLICY

Default Value

First Available

☐ Enabled

☐ Visible

☐ Editable

4.9.1.F Custom Settings

This area lets you add any custom settings to your template:

Custom Settings

+ Left

+ Fill

+ Right

4.9.2 Nitro Application Template

The Nitro Application Template lets you specifying settings and the task file for creating Nitro jobs.

In this topic:

[4.9.2.A Available Fields](#)

[4.9.2.B Application Description](#)

[4.9.2.C Basic Settings](#)

[4.9.2.D Advanced Settings](#)

[4.9.2.E Node Policy Settings](#)

[4.9.2.F Nitro Inputs](#)

4.9.2.A Available Fields

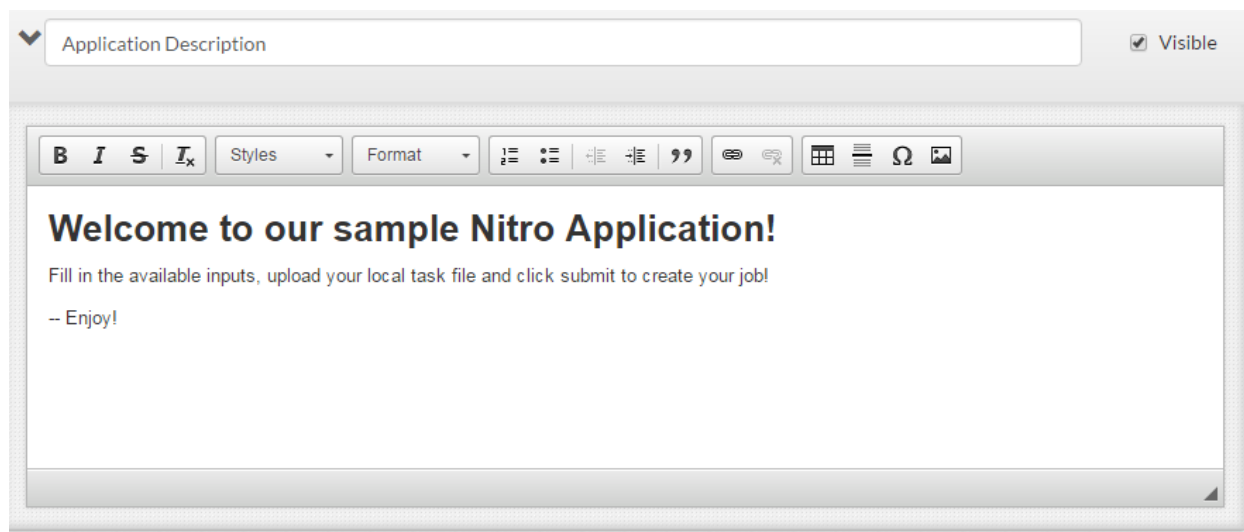
The available fields used for creating/editing the Nitro application template are grouped into the five areas described below.

Expand an area to view its fields. This section provides information on these different areas and their associated fields. See [4.4.4 Field Information and Actions](#) for information on using the fields.

4.9.2.B Application Description

This area lets you provide a description for your application template. Use this area to tell users any necessary information to use or access this template. This field provides multiple options for styling and formatting, among other ways to make your description more detailed.

This shows the **Application Description** area:



4.9.2.C Basic Settings

This area, as well as the **Advanced Settings** area, contains Moab-specific input for the job. This area breaks the basic setting information into functional groups.

These are examples of the functional groups:

- Basic Job – contains settings for basic information like the name assigned to jobs created with this template and the submission script used to submit jobs:

Basic Job Settings

Label

Name

Variable Name

NAME

Default Value

Nitro_job

☒ Enabled

☒ Visible

☒ Editable

Label

Submission Script

Variable Name

SCRIPT

Default Value

Customize Script

☒ Visible

☒ Editable

- If the Template Type for the application template is set to **Job Array**, the **Basic Job Settings** area also contains settings for job indexes:

The screenshot displays a configuration panel for a 'Job Array' template. It features five input fields and two checkboxes. The 'Label' field contains 'Job Arrays'. The 'Min Variable Name' field contains 'STARTINDEX'. The 'Min Default Value' field contains '0' and has a small up/down arrow icon on its right. The 'Max Variable Name' field contains 'ENDINDEX'. The 'Max Default Value' field contains '1' and also has an up/down arrow icon on its right. At the bottom, there are two checkboxes: 'Visible' and 'Editable', both of which are currently unchecked.

Label	Job Arrays
Min Variable Name	STARTINDEX
Min Default Value	0
Max Variable Name	ENDINDEX
Max Default Value	1
☐ Visible ☐ Editable	

- Time Management – contains delay start and job duration settings:

Time Management

Label

Duration

Variable Name

DURATION

Default Value

☐ Enabled

☐ Visible

☐ Editable

Label

Delay Start By

Variable Name

ELIGIBLEDATE

Default Value

☐ Enabled

☐ Visible

☐ Editable

- Credentials – settings for specifying job ownership, resource usage, policy enforcement, etc.:

The screenshot shows a window titled "Credentials" with a light gray background. It contains three distinct sections, each enclosed in a dashed rectangular border. Each section is for configuring a specific credential and includes a "Label" field, a "Variable Name" field, and two checkboxes labeled "Enabled" and "Visible".

- Top Left Section:**
 - Label:** Account
 - Variable Name:** ACCOUNT
 - Enabled:** ☐ (unchecked)
 - Visible:** ☐ (unchecked)
- Top Right Section:**
 - Label:** Quality of Service
 - Variable Name:** QOS
 - Enabled:** ☐ (unchecked)
 - Visible:** ☐ (unchecked)
- Bottom Left Section:**
 - Label:** Queue / Class
 - Variable Name:** DESTINATIONQUEUE
 - Enabled:** ☐ (unchecked)
 - Visible:** ☐ (unchecked)

- Resources – contains architecture, memory, and core settings:

Resources

Label

Number of Cores

Variable Name

NUMOFCORES

Total Amount of Cores

☐ Visible

☐ Editable

Total Cores

1

^

v

Nodes With Core Count

☒ Visible

☒ Editable

Total Nodes

1

^

v

Cores Per Node

8

^

v

Malleable Core Count

☐ Visible

☐ Editable

Minimum Cores

1

^

v

Maximum Cores

2

^

v

☒ Enabled

Label

Total Memory (GB)

Variable Name

MEMORYAMOUNT

Total Memory

☒ Visible

☐ Editable

Default Value

1.00

^

v

Memory per Core

☒ Visible

☐ Editable

Default Value

1.00

^

v

☒ Enabled

Label

Architecture

Variable Name

ARCHITECTURE

Default Value

v

☐ Enabled

☐ Visible

☐ Editable

- Data Management – settings for job execution directory, output, and error reporting:

Data Management

Label

Execution Path

Variable Name

EXECUTIONDIRECTORY

☐ Enabled

☐ Visible

Label

Output Path

Variable Name

OUTPUTPATH

☒ Enabled

☒ Visible

☒ Use execution path

Label

Error Path

Variable Name

ERRORPATH

☒ Enabled

☐ Visible

☒ Use execution path

4.9.2.D Advanced Settings

This area contains advanced inputs to Moab that can be requested for the job, such as whether to include Moab environment variables at job submission time.

This is an example of the **Advanced Settings** area:

Advanced Settings

Label Merge Streams

Variable Name JOIN

Default Value Yes

☐ Enabled ☐ Visible ☐ Editable

Label Hold Job

Variable Name HOLD

Default Value No

☐ Enabled ☐ Visible ☐ Editable

Label Script Shell

Variable Name SHELL

Default Value

☐ Enabled ☐ Visible ☐ Editable

Label Generic Resources

Variable Name GENERICRESOURCES

Default Value

Name	Count	Type
No required generic resources		

☐ Enabled ☐ Visible ☐ Editable

Label Job Environment Variables

Default Value

Key	Value
No environment variables set	

☐ Enabled ☐ Visible ☐ Editable

Label Operating System

Variable Name OPERATINGSYSTEM

Default Value

☐ Enabled ☐ Visible ☐ Editable

Label Moab Environment Variables

Variable Name MOABENVIRONMENTVARIAB

Default Value Yes

☒ Enabled ☐ Visible ☐ Editable

Label Email Options

Variable Name EMAILOPTIONS

☐ Enabled ☐ Visible

Label Email Notification List

Variable Name MAILLIST

☐ Enabled ☐ Visible

Label User Priority

Variable Name USERPRIORITY

Default Value 0

☐ Enabled ☐ Visible ☐ Editable

Label Requested Features

Variable Name FEATURESREQUESTED

Default Value None

☐ Enabled ☐ Visible ☐ Editable

Label Excluded Features

Variable Name FEATURESEXCLUDED

Default Value None

☐ Enabled ☐ Visible ☐ Editable

Label Default Moab Template

Variable Name MOABTEMPLATE

Default Value »nitro«

☒ Enabled ☐ Visible ☐ Editable

i When enabled, the User Priority field requires the Moab ENABLENEGJOBPRIORITY server parameter set to TRUE. This Moab parameter should have been set when Viewpoint was installed. See 'Moab Parameters' in the *Moab Workload Manager Administrator Guide* for more information on this parameter.

4.9.2.E Node Policy Settings

This area specifies node request, access, and allocation policies for jobs created with this template. This is an example of the **Node Policies Settings** area:

Node Policies Settings

Label

Node Requested Policy

Variable Name

NODESREQUESTEDPOLICY

Default Value

Exact Set

☐ Enabled

☐ Visible

☐ Editable

Label

Node Access Policy

Variable Name

NODEACCESSPOLICY

Default Value

Single Job

☒ Enabled

☐ Visible

☐ Editable

Label

Nodes Requested List

Variable Name

NODESREQUESTED

Default Value

None

☐ Enabled

☐ Visible

☐ Editable

Label

Node Allocation Policy

Variable Name

NODEALLOCATIONPOLICY

Default Value

First Available

☐ Enabled

☐ Visible

☐ Editable

4.9.2.F Nitro Inputs

This area lets you specify the task file to be used when creating Nitro jobs. You can also add any custom settings to your template:

The screenshot shows a web interface for configuring Nitro inputs. At the top, there's a tab labeled 'Nitro Inputs'. Below it, a dashed rectangular box contains the configuration fields. The 'Type' field is a dropdown menu set to 'File Upload'. The 'Label' field is a text input containing 'Task File'. The 'Variable Name' field is a text input containing 'TASKFILE'. To the left of the 'Variable Name' field is a 'Required' checkbox, which is checked. To the right of the 'Variable Name' field is a 'Delete' button with a trash icon. Below the dashed box, there are three buttons: '+ Left', '+ Fill', and '+ Right'.

4.10 Application Template API

Application Template API lets the admin user (for example, moab-admin) perform application template functions programmatically in Viewpoint instead of using the **Application Templates** page in the portal.

This section provides information and examples of the supported methods and how to authenticate against the Viewpoint application template API.

In this section:

- [4.10.1 Authenticate Against the Viewpoint Template API](#)
- [4.10.2 Supported Methods](#)
- [4.10.3 Create Template](#)
- [4.10.4 Delete Template](#)
- [4.10.5 Delete Template History](#)
- [4.10.6 Get All Templates](#)
- [4.10.7 Get Single Template](#)
- [4.10.8 Modify Template](#)
- [4.10.9 Modify Template History](#)

4.10.1 Authenticate Against the Viewpoint Template API

The Viewpoint Template API requires users to authenticate to it using cookies.

This topic provides an example on how to authenticate using cURL to get a valid cookie that can be used to validate your access.

To do this, follow these steps.

1. Create the following script:

```
#!/bin/bash
REQUEST_METHOD=$1
REQUEST_URL=$2

LOGIN_URL=https://localhost:8080/login/
YOUR_USER='moab-admin'
YOUR_PASS='changeme!'
COOKIES=cookies.txt
CURL_BIN="curl -s -c $COOKIES -b $COOKIES -e $LOGIN_URL"
echo "Django Auth: get csrftoken ..."
$CURL_BIN $LOGIN_URL > /dev/null
DJANGO_TOKEN="csrftoken=$(grep cid $COOKIES | sed 's/^.*cid\s*//')"
echo "DJANGO TOKEN is $DJANGO_TOKEN"
echo "#####"
echo "Performing login..."
$CURL_BIN \
  -d "$DJANGO_TOKEN&uName=$YOUR_USER&pwd=$YOUR_PASS" \
  -X POST $LOGIN_URL
echo "#####"
echo "Request: $REQUEST_METHOD $REQUEST_URL"
$CURL_BIN \
  -d "$DJANGO_TOKEN&..." \
  -X $REQUEST_METHOD \
  -H "Accept:Application/json" \
  $REQUEST_URL \
  | python -m json.tool
rm $COOKIES
```

2. Consume the API by running this script:

```
./iris-curl.sh GET "https://localhost:8080/api/templates/"
```

4.10.2 Supported Methods

The table that follows shows the supported methods for the Viewpoint application template API. Detailed information about each method is provided later in this section.

Resource	GET	PUT	POST	DELETE	PATCH
/api/templates/	Get All Templates	---	Create Template	---	---

Resource	GET	PUT	POST	DELETE	PATCH
/api/templates/ <id>/	Get Single Template	Modify Template  This method creates a new application template version every time you modify and save changes to an application template. The previous version is saved in the template history.	---	Delete Template	Modify Template Attribute "published"
/api/templates/ <history_pk>/ history/	Get Template History	---	Create Template (creates a new application template and assigns it as the current version)	---	---
/api/templates/ <history_pk>/history/ <version>/	Get Single Template History	Revert Template (creates a copy of the application template for the specified history version and assigns it as the current version)	---	Delete Template History	Update Template Version Description

4.10.3 Create Template

This topic provides information on how to create an application template programmatically.

In this topic:

[4.10.3.A URL](#)

[4.10.3.B Example](#)

4.10.3.A URL

```
POST /api/templates/
```

4.10.3.B Example

```
POST /api/templates/
```

Request Body

```
{
  "name": "New Template",
  "version_description": "",
  "type": "regular",
  "description": {
    "text": "",
    "visible": false
  },
  "published": true,
  "widgets": [
    {
      "default_value": "",
      "label": "Name",
      "variable_name": "NAME",
      "visible": true,
      "editable": true,
      "properties": [
        {
          "name": "id",
          "value": "name"
        },
        {
          "name": "enable",
          "value": "true"
        }
      ],
      "tooltip": "Allows you to specify a more friendly name (note: name must be alphanumeric)"
    },
    {
      "default_value": 0,
      "label": "Duration",
```

```

    "variable_name": "DURATION",
    "visible": true,
    "editable": true,
    "properties": [
      {
        "name": "id",
        "value": "duration"
      },
      {
        "name": "enable",
        "value": "true"
      }
    ],
    "tooltip": "The amount of time the job is expected to run for"
  },
  {
    "default_value": "",
    "label": "Job Arrays",
    "variable_name": "arrays",
    "visible": false,
    "editable": false,
    "properties": [
      {
        "name": "id",
        "value": "arrays"
      },
      {
        "name": "enable",
        "value": "false"
      },
      {
        "name": "start-value",
        "value": "0"
      },
      {
        "name": "end-value",
        "value": "1"
      },
      {
        "name": "start-variable",
        "value": "STARTINDEX"
      },
      {
        "name": "end-variable",
        "value": "ENDINDEX"
      }
    ]
  },
  {
    "default_value": 0,
    "label": "Delay Start By",
    "variable_name": "ELIGIBLEDATE",
    "visible": false,
    "editable": false,
    "properties": [
      {
        "name": "id",
        "value": "eligibledate"
      },
      {
        "name": "enable",
        "value": "false"
      }
    ]
  }
]

```

```

    }
  ],
  "tooltip": "Declares the time after which the job is eligible for execution"
},
{
  "default_value": "0",
  "label": "User Priority",
  "variable_name": "USERPRIORITY",
  "visible": false,
  "editable": false,
  "properties": [
    {
      "name": "id",
      "value": "priority"
    },
    {
      "name": "enable",
      "value": "false"
    }
  ]
},
  "tooltip": "Defines the priority of the job"
},
{
  "default_value": "",
  "label": "Submission Script",
  "variable_name": "SCRIPT",
  "visible": true,
  "editable": true,
  "properties": [
    {
      "name": "id",
      "value": "script"
    }
  ]
},
{
  "default_value": "",
  "label": "Account",
  "variable_name": "ACCOUNT",
  "visible": false,
  "editable": true,
  "properties": [
    {
      "name": "id",
      "value": "account"
    },
    {
      "name": "enable",
      "value": "false"
    }
  ]
},
  "tooltip": "Defines the account associated with the job"
},
{
  "default_value": "",
  "label": "Queue / Class",
  "variable_name": "DESTINATIONQUEUE",
  "visible": false,
  "editable": true,
  "properties": [
    {
      "name": "id",

```

```

        "value": "destinationQueue"
    },
    {
        "name": "enable",
        "value": "false"
    }
],
"tooltip": "Defines the destination queue / class of the job"
},
{
    "default_value": "",
    "label": "Quality of Service",
    "variable_name": "QOS",
    "visible": false,
    "editable": true,
    "properties": [
        {
            "name": "id",
            "value": "qos"
        },
        {
            "name": "enable",
            "value": "false"
        }
    ],
    "tooltip": "Defines the desired QoS for the job"
},
{
    "default_value": "",
    "label": "Number of Cores",
    "variable_name": "NUMOFCORES",
    "visible": true,
    "editable": true,
    "properties": [
        {
            "name": "id",
            "value": "cpuperiode"
        },
        {
            "name": "totalamount",
            "value": true
        },
        {
            "name": "nodeswithcount",
            "value": true
        },
        {
            "name": "malleablecorecount",
            "value": true
        },
        {
            "name": "totalamount_editable",
            "value": true
        },
        {
            "name": "nodeswithcount_editable",
            "value": true
        },
        {
            "name": "malleablecorecount_editable",
            "value": true
        }
    ],

```

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    {
      "name": "totalamount_visible_default",
      "value": true
    },
    {
      "name": "nodeswithcount_visible_default",
      "value": false
    },
    {
      "name": "malleablecorecount_visible_default",
      "value": false
    },
    {
      "name": "totalcores_default",
      "value": "1"
    },
    {
      "name": "totalnodes_default",
      "value": "1"
    },
    {
      "name": "corespernode_default",
      "value": "1"
    },
    {
      "name": "minimumcores_default",
      "value": "1"
    },
    {
      "name": "maximumcores_default",
      "value": "2"
    },
    {
      "name": "enable",
      "value": "true"
    }
  ],
  "tooltip": "Defines the resources that are required by the job and establishes a
limit to the amount of resource that can be consumed"
},
{
  "default_value": "",
  "label": "Memory (GB)",
  "variable_name": "MEMORYAMOUNT",
  "visible": true,
  "editable": true,
  "properties": [
    {
      "name": "id",
      "value": "memorypernode"
    },
    {
      "name": "totalmemory",
      "value": true
    },
    {
      "name": "memorypercore",
      "value": true
    },
    {
      "name": "totalmemory_visible_default",
      "value": false
    }
  ]
}

```

```

    },
    {
      "name": "memorypercore_visible_default",
      "value": true
    },
    {
      "name": "totalmemory_default",
      "value": "0.50"
    },
    {
      "name": "memorypercore_default",
      "value": "0.50"
    },
    {
      "name": "totalmemory_editable",
      "value": true
    },
    {
      "name": "memorypercore_editable",
      "value": true
    },
    {
      "name": "enable",
      "value": "true"
    }
  ],
  "tooltip": "Defines the resources that are required by the job and establishes a
limit to the amount of resource that can be consumed"
},
{
  "default_value": "linux",
  "label": "Architecture",
  "variable_name": "ARCHITECTURE",
  "visible": true,
  "editable": true,
  "properties": [
    {
      "name": "id",
      "value": "architecture"
    },
    {
      "name": "enable",
      "value": "true"
    }
  ],
  "tooltip": "Defines the resources that are required by the job and establishes a
limit to the amount of resource that can be consumed"
},
{
  "default_value": "",
  "label": "Execution Path",
  "variable_name": "EXECUTIONDIRECTORY",
  "visible": false,
  "editable": true,
  "properties": [
    {
      "name": "id",
      "value": "exedir"
    },
    {
      "name": "enable",
      "value": "false"
    }
  ]
}

```

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    }
  ],
  "tooltip": "Your job's execution directory"
},
{
  "default_value": "",
  "label": "Error Path",
  "variable_name": "ERRORPATH",
  "visible": false,
  "editable": true,
  "properties": [
    {
      "name": "id",
      "value": "errorpath"
    },
    {
      "name": "useExecutionPath",
      "value": false
    },
    {
      "name": "enable",
      "value": "false"
    }
  ]
},
  "tooltip": "Defines the path to be used for the standard error stream of the
job"
},
{
  "default_value": "",
  "label": "Output Path",
  "variable_name": "OUTPUTPATH",
  "visible": false,
  "editable": true,
  "properties": [
    {
      "name": "id",
      "value": "outputpath"
    },
    {
      "name": "useExecutionPath",
      "value": false
    },
    {
      "name": "enable",
      "value": "false"
    }
  ]
},
  "tooltip": "Defines the path to be used for the standard output stream of the
job"
},
{
  "default_value": "false",
  "label": "Merge Streams",
  "variable_name": "JOIN",
  "visible": false,
  "editable": false,
  "properties": [
    {
      "name": "id",
      "value": "join"
    },
  ],
  {

```

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        "name": "enable",
        "value": "false"
    }
],
"tooltip": "Merge stderr and stdout streams?"
},
{
    "default_value": "false",
    "label": "Hold Job",
    "variable_name": "HOLD",
    "visible": false,
    "editable": false,
    "properties": [
        {
            "name": "id",
            "value": "hold"
        },
        {
            "name": "enable",
            "value": "false"
        }
    ]
},
"tooltip": "Specifies that a user hold be applied to the job at submission time"
},
{
    "default_value": "",
    "label": "Script Shell",
    "variable_name": "SHELL",
    "visible": false,
    "editable": false,
    "properties": [
        {
            "name": "id",
            "value": "shell"
        },
        {
            "name": "enable",
            "value": "false"
        }
    ]
},
"tooltip": "Declares the shell that interprets the job script, e.g. /bin/bash"
},
{
    "default_value": "true",
    "label": "Moab Environment Variables",
    "variable_name": "MOABENVIRONMENTVARIABLES",
    "visible": false,
    "editable": false,
    "properties": [
        {
            "name": "id",
            "value": "moabenvironmentvariables"
        },
        {
            "name": "enable",
            "value": "true"
        }
    ]
},
"tooltip": "Push Moab environment variables to job?"
},
{
    "default_value": "",

```

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    "label": "Email Notification List",
    "variable_name": "MAILLIST",
    "visible": false,
    "editable": false,
    "properties": [
      {
        "name": "id",
        "value": "maillist"
      },
      {
        "name": "enable",
        "value": "false"
      }
    ],
    "tooltip": "Specifies the list of users to whom mail is sent by the execution
server. Overrides the EMAILADDRESS specified on the USERCFG [credential]"
  },
  {
    "default_value": "",
    "label": "Email Options",
    "variable_name": "EMAILOPTIONS",
    "visible": false,
    "editable": false,
    "properties": [
      {
        "name": "id",
        "value": "emailoptions"
      },
      {
        "name": "enable",
        "value": "false"
      }
    ],
    "tooltip": "A list of requested email options"
  },
  {
    "default_value": "",
    "label": "Generic Resources",
    "variable_name": "GENERICRESOURCES",
    "visible": false,
    "editable": false,
    "properties": [
      {
        "name": "id",
        "value": "genericresources"
      },
      {
        "name": "enable",
        "value": "false"
      }
    ],
    "tooltip": "Allows for specification of additional job attributes"
  },
  {
    "default_value": "",
    "label": "Job Env Variables",
    "variable_name": "Job Environment Variables",
    "visible": false,
    "editable": false,
    "properties": [
      {
        "name": "id",

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        "value": "jobEnvVariables"
    },
    {
        "name": "enable",
        "value": "false"
    }
]
},
{
    "default_value": "",
    "label": "Moab Job Template",
    "variable_name": "MOABTEMPLATE",
    "visible": false,
    "editable": false,
    "properties": [
        {
            "name": "id",
            "value": "moabtemplates"
        },
        {
            "name": "enable",
            "value": "false"
        }
    ],
    "tooltip": "Defines set of MOAB job templates"
},
{
    "default_value": "SHARED",
    "label": "Node Access Policy",
    "variable_name": "NODEACCESSPOLICY",
    "visible": false,
    "editable": false,
    "properties": [
        {
            "name": "id",
            "value": "node-access-policy"
        },
        {
            "name": "enable",
            "value": "false"
        }
    ]
},
{
    "default_value": "FIRSTAVAILABLE",
    "label": "Node Allocation Policy",
    "variable_name": "NODEALLOCATIONPOLICY",
    "visible": false,
    "editable": false,
    "properties": [
        {
            "name": "id",
            "value": "node-allocation-policy"
        },
        {
            "name": "enable",
            "value": "false"
        }
    ]
},
{
    "default_value": "EXACTSET",

```

```

    "label": "Node Requested Policy",
    "variable_name": "NODESREQUESTEDPOLICY",
    "visible": false,
    "editable": false,
    "properties": [
      {
        "name": "id",
        "value": "nodes-requested-policy"
      },
      {
        "name": "enable",
        "value": "false"
      }
    ]
  },
  {
    "default_value": "",
    "label": "Operating System",
    "variable_name": "OPERATINGSYSTEM",
    "visible": false,
    "editable": false,
    "properties": [
      {
        "name": "id",
        "value": "operatingSystem"
      },
      {
        "name": "enable",
        "value": "false"
      }
    ]
  },
  {
    "default_value": "",
    "label": "Requested Features",
    "variable_name": "FEATURESREQUESTED",
    "visible": false,
    "editable": false,
    "properties": [
      {
        "name": "id",
        "value": "features-requested"
      },
      {
        "name": "enable",
        "value": "false"
      }
    ]
  },
  "tooltip": "Contains a list of features that are required for the job to run"
},
{
  "default_value": "",
  "label": "Excluded Features",
  "variable_name": "FEATURESEXCLUDED",
  "visible": false,
  "editable": false,
  "properties": [
    {
      "name": "id",
      "value": "features-excluded"
    },
    {

```

```

        "name": "enable",
        "value": "false"
    }
],
    "tooltip": "Contains a list of features that can not be present on hardware the
job needs to run"
},
{
    "default_value": "",
    "label": "Nodes Requested List",
    "variable_name": "NODESREQUESTED",
    "visible": false,
    "editable": false,
    "properties": [
        {
            "name": "id",
            "value": "nodes-requested"
        },
        {
            "name": "enable",
            "value": "false"
        }
    ]
}
],
"sections": [
    {
        "name": "defaults",
        "value": "Basic Job Settings"
    },
    {
        "name": "timeManagement",
        "value": "Time Management"
    },
    {
        "name": "credentials",
        "value": "Credentials"
    },
    {
        "name": "resources",
        "value": "Resources"
    },
    {
        "name": "dataManagement",
        "value": "Data Management"
    },
    {
        "name": "custom",
        "value": "Custom Settings"
    },
    {
        "name": "basic",
        "value": "Basic Settings"
    },
    {
        "name": "advanced",
        "value": "Advanced Settings"
    },
    {
        "name": "description",
        "value": "Application Description"
    }
]

```

```

    ],
    "permissions": [
      {
        "name": "ALL",
        "type": "user"
      },
      {
        "name": "ALL",
        "type": "group"
      },
      {
        "name": "ALL",
        "type": "account"
      }
    ]
  }
}

```

Response

```

{
  "url": "https://10.2.184.87:8081/api/templates/7/",
  "history_url": null,
  "changed_by": "moab-admin",
  "current": true,
  "date": "2024-09-13T07:42:36.204904Z",
  "id": 7,
  "name": "New Template",
  "type": "regular",
  "description": {
    "text": "",
    "visible": false
  },
  "owner": "moab-admin",
  "permissions": [
    {
      "name": "ALL",
      "type": "account"
    },
    {
      "name": "ALL",
      "type": "group"
    },
    {
      "name": "ALL",
      "type": "user"
    }
  ],
  "published": true,
  "sections": [
    {
      "name": "defaults",
      "value": "Basic Job Settings"
    },
    {
      "name": "timeManagement",
      "value": "Time Management"
    },
    {
      "name": "credentials",
      "value": "Credentials"
    }
  ],
}

```

```

    {
      "name": "resources",
      "value": "Resources"
    },
    {
      "name": "dataManagement",
      "value": "Data Management"
    },
    {
      "name": "custom",
      "value": "Custom Settings"
    },
    {
      "name": "basic",
      "value": "Basic Settings"
    },
    {
      "name": "advanced",
      "value": "Advanced Settings"
    },
    {
      "name": "description",
      "value": "Application Description"
    }
  ],
  "use": 0,
  "widgets": [
    {
      "default_value": "",
      "editable": true,
      "label": "Name",
      "variable_name": "NAME",
      "visible": true,
      "properties": [
        {
          "name": "id",
          "value": "name"
        },
        {
          "name": "enable",
          "value": "true"
        }
      ]
    }
  ],
  {
    "default_value": "0",
    "editable": true,
    "label": "Duration",
    "variable_name": "DURATION",
    "visible": true,
    "properties": [
      {
        "name": "id",
        "value": "duration"
      },
      {
        "name": "enable",
        "value": "true"
      }
    ]
  }
],
},
{

```

```

    "default_value": "",
    "editable": false,
    "label": "Job Arrays",
    "variable_name": "arrays",
    "visible": false,
    "properties": [
      {
        "name": "id",
        "value": "arrays"
      },
      {
        "name": "enable",
        "value": "false"
      },
      {
        "name": "start-value",
        "value": "0"
      },
      {
        "name": "end-value",
        "value": "1"
      },
      {
        "name": "start-variable",
        "value": "STARTINDEX"
      },
      {
        "name": "end-variable",
        "value": "ENDINDEX"
      }
    ]
  },
  {
    "default_value": "0",
    "editable": false,
    "label": "Delay Start By",
    "variable_name": "ELIGIBLEDATE",
    "visible": false,
    "properties": [
      {
        "name": "id",
        "value": "eligibledate"
      },
      {
        "name": "enable",
        "value": "false"
      }
    ]
  },
  {
    "default_value": "0",
    "editable": false,
    "label": "User Priority",
    "variable_name": "USERPRIORITY",
    "visible": false,
    "properties": [
      {
        "name": "id",
        "value": "priority"
      },
      {
        "name": "enable",

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        "value": "false"
    }
]
},
{
    "default_value": "",
    "editable": true,
    "label": "Submission Script",
    "variable_name": "SCRIPT",
    "visible": true,
    "properties": [
        {
            "name": "id",
            "value": "script"
        }
    ]
},
{
    "default_value": "",
    "editable": true,
    "label": "Account",
    "variable_name": "ACCOUNT",
    "visible": false,
    "properties": [
        {
            "name": "id",
            "value": "account"
        },
        {
            "name": "enable",
            "value": "false"
        }
    ]
},
{
    "default_value": "",
    "editable": true,
    "label": "Queue / Class",
    "variable_name": "DESTINATIONQUEUE",
    "visible": false,
    "properties": [
        {
            "name": "id",
            "value": "destinationQueue"
        },
        {
            "name": "enable",
            "value": "false"
        }
    ]
},
{
    "default_value": "",
    "editable": true,
    "label": "Quality of Service",
    "variable_name": "QOS",
    "visible": false,
    "properties": [
        {
            "name": "id",
            "value": "qos"
        }
    ]
},

```

```

        {
            "name": "enable",
            "value": "false"
        }
    ]
},
{
    "default_value": "",
    "editable": true,
    "label": "Number of Cores",
    "variable_name": "NUMOFCORES",
    "visible": true,
    "properties": [
        {
            "name": "id",
            "value": "cpuperiode"
        },
        {
            "name": "totalamount",
            "value": "True"
        },
        {
            "name": "nodeswithcount",
            "value": "True"
        },
        {
            "name": "malleablecorecount",
            "value": "True"
        },
        {
            "name": "totalamount_editable",
            "value": "True"
        },
        {
            "name": "nodeswithcount_editable",
            "value": "True"
        },
        {
            "name": "malleablecorecount_editable",
            "value": "True"
        },
        {
            "name": "totalamount_visible_default",
            "value": "True"
        },
        {
            "name": "nodeswithcount_visible_default",
            "value": "False"
        },
        {
            "name": "malleablecorecount_visible_default",
            "value": "False"
        },
        {
            "name": "totalcores_default",
            "value": "1"
        },
        {
            "name": "totalnodes_default",
            "value": "1"
        },
        {

```

```

        "name": "corespernode_default",
        "value": "1"
    },
    {
        "name": "minimumcores_default",
        "value": "1"
    },
    {
        "name": "maximumcores_default",
        "value": "2"
    },
    {
        "name": "enable",
        "value": "true"
    }
]
},
{
    "default_value": "",
    "editable": true,
    "label": "Memory (GB)",
    "variable_name": "MEMORYAMOUNT",
    "visible": true,
    "properties": [
        {
            "name": "id",
            "value": "memorypernode"
        },
        {
            "name": "totalmemory",
            "value": "True"
        },
        {
            "name": "memorypercore",
            "value": "True"
        },
        {
            "name": "totalmemory_visible_default",
            "value": "False"
        },
        {
            "name": "memorypercore_visible_default",
            "value": "True"
        },
        {
            "name": "totalmemory_default",
            "value": "0.50"
        },
        {
            "name": "memorypercore_default",
            "value": "0.50"
        },
        {
            "name": "totalmemory_editable",
            "value": "True"
        },
        {
            "name": "memorypercore_editable",
            "value": "True"
        },
        {
            "name": "enable",

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        "value": "true"
    }
]
},
{
    "default_value": "linux",
    "editable": true,
    "label": "Architecture",
    "variable_name": "ARCHITECTURE",
    "visible": true,
    "properties": [
        {
            "name": "id",
            "value": "architecture"
        },
        {
            "name": "enable",
            "value": "true"
        }
    ]
},
{
    "default_value": "",
    "editable": true,
    "label": "Execution Path",
    "variable_name": "EXECUTIONDIRECTORY",
    "visible": false,
    "properties": [
        {
            "name": "id",
            "value": "exedir"
        },
        {
            "name": "enable",
            "value": "false"
        }
    ]
},
{
    "default_value": "",
    "editable": true,
    "label": "Error Path",
    "variable_name": "ERRORPATH",
    "visible": false,
    "properties": [
        {
            "name": "id",
            "value": "errorpath"
        },
        {
            "name": "useExecutionPath",
            "value": "False"
        },
        {
            "name": "enable",
            "value": "false"
        }
    ]
},
{
    "default_value": "",
    "editable": true,

```

```

    "label": "Output Path",
    "variable_name": "OUTPUTPATH",
    "visible": false,
    "properties": [
      {
        "name": "id",
        "value": "outputpath"
      },
      {
        "name": "useExecutionPath",
        "value": "False"
      },
      {
        "name": "enable",
        "value": "false"
      }
    ]
  },
  {
    "default_value": "false",
    "editable": false,
    "label": "Merge Streams",
    "variable_name": "JOIN",
    "visible": false,
    "properties": [
      {
        "name": "id",
        "value": "join"
      },
      {
        "name": "enable",
        "value": "false"
      }
    ]
  },
  {
    "default_value": "false",
    "editable": false,
    "label": "Hold Job",
    "variable_name": "HOLD",
    "visible": false,
    "properties": [
      {
        "name": "id",
        "value": "hold"
      },
      {
        "name": "enable",
        "value": "false"
      }
    ]
  },
  {
    "default_value": "",
    "editable": false,
    "label": "Script Shell",
    "variable_name": "SHELL",
    "visible": false,
    "properties": [
      {
        "name": "id",
        "value": "shell"
      }
    ]
  }

```

```

    },
    {
      "name": "enable",
      "value": "false"
    }
  ]
},
{
  "default_value": "true",
  "editable": false,
  "label": "Moab Environment Variables",
  "variable_name": "MOABENVIRONMENTVARIABLES",
  "visible": false,
  "properties": [
    {
      "name": "id",
      "value": "moabenvironmentvariables"
    },
    {
      "name": "enable",
      "value": "true"
    }
  ]
},
{
  "default_value": "",
  "editable": false,
  "label": "Email Notification List",
  "variable_name": "MAILLIST",
  "visible": false,
  "properties": [
    {
      "name": "id",
      "value": "maillist"
    },
    {
      "name": "enable",
      "value": "false"
    }
  ]
},
{
  "default_value": "",
  "editable": false,
  "label": "Email Options",
  "variable_name": "EMAILOPTIONS",
  "visible": false,
  "properties": [
    {
      "name": "id",
      "value": "emailoptions"
    },
    {
      "name": "enable",
      "value": "false"
    }
  ]
},
{
  "default_value": "",
  "editable": false,
  "label": "Generic Resources",

```

```

    "variable_name": "GENERICRESOURCES",
    "visible": false,
    "properties": [
      {
        "name": "id",
        "value": "genericresources"
      },
      {
        "name": "enable",
        "value": "false"
      }
    ]
  },
  {
    "default_value": "",
    "editable": false,
    "label": "Job Env Variables",
    "variable_name": "Job Environment Variables",
    "visible": false,
    "properties": [
      {
        "name": "id",
        "value": "jobEnvVariables"
      },
      {
        "name": "enable",
        "value": "false"
      }
    ]
  },
  {
    "default_value": "",
    "editable": false,
    "label": "Moab Job Template",
    "variable_name": "MOABTEMPLATE",
    "visible": false,
    "properties": [
      {
        "name": "id",
        "value": "moabtemplates"
      },
      {
        "name": "enable",
        "value": "false"
      }
    ]
  },
  {
    "default_value": "SHARED",
    "editable": false,
    "label": "Node Access Policy",
    "variable_name": "NODEACCESSPOLICY",
    "visible": false,
    "properties": [
      {
        "name": "id",
        "value": "node-access-policy"
      },
      {
        "name": "enable",
        "value": "false"
      }
    ]
  }
]

```

```

    ]
  },
  {
    "default_value": "FIRSTAVAILABLE",
    "editable": false,
    "label": "Node Allocation Policy",
    "variable_name": "NODEALLOCATIONPOLICY",
    "visible": false,
    "properties": [
      {
        "name": "id",
        "value": "node-allocation-policy"
      },
      {
        "name": "enable",
        "value": "false"
      }
    ]
  }
],
{
  "default_value": "EXACTSET",
  "editable": false,
  "label": "Node Requested Policy",
  "variable_name": "NODESREQUESTEDPOLICY",
  "visible": false,
  "properties": [
    {
      "name": "id",
      "value": "nodes-requested-policy"
    },
    {
      "name": "enable",
      "value": "false"
    }
  ]
},
{
  "default_value": "",
  "editable": false,
  "label": "Operating System",
  "variable_name": "OPERATINGSYSTEM",
  "visible": false,
  "properties": [
    {
      "name": "id",
      "value": "operatingSystem"
    },
    {
      "name": "enable",
      "value": "false"
    }
  ]
},
{
  "default_value": "",
  "editable": false,
  "label": "Requested Features",
  "variable_name": "FEATURESREQUESTED",
  "visible": false,
  "properties": [
    {
      "name": "id",

```

```

        "value": "features-requested"
      },
      {
        "name": "enable",
        "value": "false"
      }
    ]
  },
  {
    "default_value": "",
    "editable": false,
    "label": "Excluded Features",
    "variable_name": "FEATURESEXCLUDED",
    "visible": false,
    "properties": [
      {
        "name": "id",
        "value": "features-excluded"
      },
      {
        "name": "enable",
        "value": "false"
      }
    ]
  },
  {
    "default_value": "",
    "editable": false,
    "label": "Nodes Requested List",
    "variable_name": "NODESREQUESTED",
    "visible": false,
    "properties": [
      {
        "name": "id",
        "value": "nodes-requested"
      },
      {
        "name": "enable",
        "value": "false"
      }
    ]
  }
],
"version_description": "",
"version": 1
}

```

4.10.4 Delete Template

This topic provides information on how to delete an application template, including all of its template history (api/templates/<id>). See [4.10.5 Delete Template History](#) for information on how to delete the selected history for an application template (api/templates/<history_pk>/history/<version>).

URL

```
DELETE /api/templates/<id>/
```

Parameters

Parameter	Required	Type	Description	Example
id	Yes	Integer	ID of the application template.	1

Example

```
DELETE /api/templates/2/
```

4.10.5 Delete Template History

This topic provides information on how to delete the selected history for an application template (api/templates/<history_pk>/history/<version>). See [4.10.4 Delete Template](#) for information on how to delete an application template, including all of its template history (api/templates/<id>).

URL

```
DELETE /api/templates/<history_pk>/history/<version>/
```

Parameters

Parameter	Required	Type	Description	Example
history_pk	Yes	String	History ID of the application template.	b00ce08c-01ed-4a9d-a916-f587b9f1af44
version	Yes	Integer	Version of the application template.	2

Example

```
DELETE /api/templates/b00ce08c-01ed-4a9d-a916-f587b9f1af44/history/2/
```

4.10.6 Get All Templates

- In this topic:
- 4.10.6.A URL
 - 4.10.6.B Parameters
 - 4.10.6.C Example

4.10.6.A URL

GET /api/templates/

4.10.6.B Parameters

Page Control

Parameter	Required	Type	Description	Example
page_size	No	Integer	Specifies count of application templates per page.	page_size=3
page	No	Integer	Specifies number of page.	page=2

Filter

Parameter	Required	Type	Description	Example
name	No	String	Specifies name of application template for filtering.	name=Free Form name__contains=foo name__icontains=foo name__startswith=foo
current	No	Boolean	Specifies whether only the current version for the application templates is included in the filtering.	current=True

Parameter	Required	Type	Description	Example
type	No	String	Specify the application template type to include in the filtering.	type=array
owner	No	String	Specifies the owner's name for filtering.	owner=moab-foo owner__contains=moab owner__icontains=foo owner__startswith=foo owner__ne=foo
published	No	Boolean	Specifies the published status of the application template for filtering.	published=True
permissions__user__name_in	No	List	Specifies the list of users that the application template should contain.	permissions__user__name__in=hpotter,hgranger
permissions__group__name_in	No	List	Specifies the list of groups that the application template should contain.	permissions__group__name__in=hpotter,hgranger
permissions__account__name_in	No	List	Specifies the list of accounts that the application template should contain.	permissions__account__name__in=DEFAULT,QA
date_gte	No	Date	Specifies the date before which the application template was created.	date__gte=2024-09-01
date_lte	No	Date	Specifies the date after which the application template was created.	date__lte=2024-09-16

4.10.6.C Example

```
GET /api/templates/?page_size=1&published=True
```

Response

```
{
  "count": 1,
  "next": null,
  "previous": null,
  "results": [
    {
      "url": "https://localhost:8080/api/templates/5/",
      "history_url": "https://localhost:8080/api/templates/b00ce08c-01ed-4a9d-a916-f587b9f1af44/history/",
      "changed_by": "moab-admin",
      "current": true,
      "date": "2024-09-08T12:14:19.647410Z",
      "id": 5,
      "name": "Free Form",
      "type": "regular",
      "description": {
        "text": "<h1><strong>Welcome to our Free Form</strong> Application Template!</h1>\n\n<p>Fill in the inputs and press the \"Create\" button to submit your job!</p>\n\n<p>-- Enjoy!</p>",
        "visible": true
      },
      "owner": "moab-admin",
      "permissions": [
        {
          "name": "ALL",
          "type": "account"
        },
        {
          "name": "ALL",
          "type": "group"
        },
        {
          "name": "ALL",
          "type": "user"
        }
      ],
      "published": true,
      "sections": [
        {
          "name": "description",
          "value": "Application Description"
        },
        {
          "name": "advanced",
          "value": "Advanced Settings"
        },
        {
          "name": "basic",
          "value": "Basic Settings"
        },
        {
          "name": "custom",
          "value": "Custom Settings"
        }
      ]
    }
  ]
}
```

```

        {
            "name": "dataManagement",
            "value": "Data Management"
        },
        {
            "name": "resources",
            "value": "Resources"
        },
        {
            "name": "credentials",
            "value": "Credentials"
        },
        {
            "name": "timeManagement",
            "value": "Time Management"
        },
        {
            "name": "defaults",
            "value": "Basic Job Settings"
        }
    ],
    "use": 0,
    "widgets": [
        {
            "default_value": "ggg",
            "editable": true,
            "label": "Name",
            "variable_name": "NAME",
            "visible": true,
            "properties": [
                {
                    "name": "id",
                    "value": "name"
                },
                {
                    "name": "enable",
                    "value": "true"
                }
            ]
        },
        {
            "default_value": "0",
            "editable": true,
            "label": "Duration",
            "variable_name": "DURATION",
            "visible": true,
            "properties": [
                {
                    "name": "id",
                    "value": "duration"
                },
                {
                    "name": "enable",
                    "value": "true"
                }
            ]
        },
        {
            "default_value": "",
            "editable": false,
            "label": "Job Arrays",
            "variable_name": "arrays",

```

```

        "visible": false,
        "properties": [
            {
                "name": "id",
                "value": "arrays"
            },
            {
                "name": "enable",
                "value": "false"
            },
            {
                "name": "start-value",
                "value": "0"
            },
            {
                "name": "end-value",
                "value": "1"
            },
            {
                "name": "start-variable",
                "value": "STARTINDEX"
            },
            {
                "name": "end-variable",
                "value": "ENDINDEX"
            }
        ]
    },
    {
        "default_value": "0",
        "editable": true,
        "label": "Delay Start By",
        "variable_name": "ELIGIBLEDATE",
        "visible": true,
        "properties": [
            {
                "name": "id",
                "value": "eligibledate"
            },
            {
                "name": "enable",
                "value": "true"
            }
        ]
    },
    {
        "default_value": "0",
        "editable": false,
        "label": "User Priority",
        "variable_name": "USERPRIORITY",
        "visible": false,
        "properties": [
            {
                "name": "id",
                "value": "priority"
            },
            {
                "name": "enable",
                "value": "true"
            }
        ]
    }
],

```

```

{
  "default_value": "",
  "editable": true,
  "label": "Submission Script",
  "variable_name": "SCRIPT",
  "visible": true,
  "properties": [
    {
      "name": "id",
      "value": "script"
    }
  ]
},
{
  "default_value": "",
  "editable": true,
  "label": "Account",
  "variable_name": "ACCOUNT",
  "visible": true,
  "properties": [
    {
      "name": "id",
      "value": "account"
    },
    {
      "name": "enable",
      "value": "true"
    }
  ]
},
{
  "default_value": "",
  "editable": true,
  "label": "Queue / Class",
  "variable_name": "DESTINATIONQUEUE",
  "visible": true,
  "properties": [
    {
      "name": "id",
      "value": "destinationQueue"
    },
    {
      "name": "enable",
      "value": "true"
    }
  ]
},
{
  "default_value": "",
  "editable": true,
  "label": "Quality of Service",
  "variable_name": "QOS",
  "visible": true,
  "properties": [
    {
      "name": "id",
      "value": "qos"
    },
    {
      "name": "enable",
      "value": "true"
    }
  ]
}

```

```

    ],
    {
      "default_value": "",
      "editable": true,
      "label": "Number of Cores",
      "variable_name": "NUMOFCORES",
      "visible": true,
      "properties": [
        {
          "name": "id",
          "value": "cpupernode"
        },
        {
          "name": "totalamount",
          "value": "True"
        },
        {
          "name": "nodeswithcount",
          "value": "True"
        },
        {
          "name": "malleablecorecount",
          "value": "False"
        },
        {
          "name": "totalamount_editable",
          "value": "False"
        },
        {
          "name": "nodeswithcount_editable",
          "value": "False"
        },
        {
          "name": "malleablecorecount_editable",
          "value": "False"
        },
        {
          "name": "totalamount_visible_default",
          "value": "True"
        },
        {
          "name": "nodeswithcount_visible_default",
          "value": "False"
        },
        {
          "name": "malleablecorecount_visible_default",
          "value": "False"
        },
        {
          "name": "totalcores_default",
          "value": "1"
        },
        {
          "name": "totalnodes_default",
          "value": "1"
        },
        {
          "name": "corespernode_default",
          "value": "1"
        },
        {

```

```

        "name": "minimumcores_default",
        "value": "1"
    },
    {
        "name": "maximumcores_default",
        "value": "2"
    },
    {
        "name": "enable",
        "value": "true"
    }
]
},
{
    "default_value": "",
    "editable": true,
    "label": "Total Memory (GB)",
    "variable_name": "MEMORYAMOUNT",
    "visible": true,
    "properties": [
        {
            "name": "id",
            "value": "memorypernode"
        },
        {
            "name": "totalmemory",
            "value": "True"
        },
        {
            "name": "memorypercore",
            "value": "True"
        },
        {
            "name": "totalmemory_visible_default",
            "value": "True"
        },
        {
            "name": "memorypercore_visible_default",
            "value": "True"
        },
        {
            "name": "totalmemory_default",
            "value": "0.5"
        },
        {
            "name": "memorypercore_default",
            "value": "0.5"
        },
        {
            "name": "totalmemory_editable",
            "value": "False"
        },
        {
            "name": "memorypercore_editable",
            "value": "False"
        },
        {
            "name": "enable",
            "value": "true"
        }
    ]
},

```

```

    {
      "default_value": "linux",
      "editable": true,
      "label": "Architecture",
      "variable_name": "ARCHITECTURE",
      "visible": true,
      "properties": [
        {
          "name": "id",
          "value": "architecture"
        },
        {
          "name": "enable",
          "value": "true"
        }
      ]
    },
    {
      "default_value": "",
      "editable": true,
      "label": "Execution Path",
      "variable_name": "EXECUTIONDIRECTORY",
      "visible": true,
      "properties": [
        {
          "name": "id",
          "value": "exedir"
        },
        {
          "name": "enable",
          "value": "true"
        }
      ]
    },
    {
      "default_value": "",
      "editable": true,
      "label": "Error Path",
      "variable_name": "ERRORPATH",
      "visible": true,
      "properties": [
        {
          "name": "id",
          "value": "errorpath"
        },
        {
          "name": "useExecutionPath",
          "value": "True"
        },
        {
          "name": "enable",
          "value": "true"
        }
      ]
    },
    {
      "default_value": "",
      "editable": true,
      "label": "Output Path",
      "variable_name": "OUTPUTPATH",
      "visible": true,
      "properties": [

```

```

        {
            "name": "id",
            "value": "outputpath"
        },
        {
            "name": "useExecutionPath",
            "value": "True"
        },
        {
            "name": "enable",
            "value": "true"
        }
    ]
},
{
    "default_value": "false",
    "editable": true,
    "label": "Merge Streams",
    "variable_name": "JOIN",
    "visible": true,
    "properties": [
        {
            "name": "id",
            "value": "join"
        },
        {
            "name": "enable",
            "value": "true"
        }
    ]
},
{
    "default_value": "false",
    "editable": true,
    "label": "Hold Job",
    "variable_name": "HOLD",
    "visible": true,
    "properties": [
        {
            "name": "id",
            "value": "hold"
        },
        {
            "name": "enable",
            "value": "true"
        }
    ]
},
{
    "default_value": "",
    "editable": true,
    "label": "Script Shell",
    "variable_name": "SHELL",
    "visible": true,
    "properties": [
        {
            "name": "id",
            "value": "shell"
        },
        {
            "name": "enable",
            "value": "true"
        }
    ]
}

```

```

    }
  ]
},
{
  "default_value": "true",
  "editable": true,
  "label": "Moab Environment Variables",
  "variable_name": "MOABENVIRONMENTVARIABLES",
  "visible": true,
  "properties": [
    {
      "name": "id",
      "value": "moabenvironmentvariables"
    },
    {
      "name": "enable",
      "value": "true"
    }
  ]
},
{
  "default_value": "",
  "editable": true,
  "label": "Email Notification List",
  "variable_name": "MAILLIST",
  "visible": true,
  "properties": [
    {
      "name": "id",
      "value": "maillist"
    },
    {
      "name": "enable",
      "value": "true"
    }
  ]
},
{
  "default_value": "",
  "editable": true,
  "label": "Email Options",
  "variable_name": "EMAILOPTIONS",
  "visible": true,
  "properties": [
    {
      "name": "id",
      "value": "emailoptions"
    },
    {
      "name": "enable",
      "value": "true"
    }
  ]
},
{
  "default_value": "",
  "editable": true,
  "label": "Generic Resources",
  "variable_name": "GENERICRESOURCES",
  "visible": true,
  "properties": [
    {

```

```

        "name": "id",
        "value": "genericresources"
    },
    {
        "name": "enable",
        "value": "true"
    }
]
},
{
    "default_value": "",
    "editable": true,
    "label": "Job Environment Variables",
    "variable_name": "Job Environment Variables",
    "visible": true,
    "properties": [
        {
            "name": "id",
            "value": "jobEnvVariables"
        },
        {
            "name": "enable",
            "value": "true"
        }
    ]
},
{
    "default_value": "",
    "editable": false,
    "label": "Default Moab Template",
    "variable_name": "MOABTEMPLATE",
    "visible": false,
    "properties": [
        {
            "name": "id",
            "value": "moabtemplates"
        },
        {
            "name": "enable",
            "value": "false"
        }
    ]
},
{
    "default_value": "SHARED",
    "editable": false,
    "label": "Node Access Policy",
    "variable_name": "NODEACCESSPOLICY",
    "visible": false,
    "properties": [
        {
            "name": "id",
            "value": "node-access-policy"
        },
        {
            "name": "enable",
            "value": "false"
        }
    ]
},
{
    "default_value": "FIRSTAVAILABLE",

```

```

        "editable": false,
        "label": "Node Allocation Policy",
        "variable_name": "NODEALLOCATIONPOLICY",
        "visible": false,
        "properties": [
            {
                "name": "id",
                "value": "node-allocation-policy"
            },
            {
                "name": "enable",
                "value": "false"
            }
        ]
    },
    {
        "default_value": "EXACTSET",
        "editable": false,
        "label": "Node Requested Policy",
        "variable_name": "NODESREQUESTEDPOLICY",
        "visible": false,
        "properties": [
            {
                "name": "id",
                "value": "nodes-requested-policy"
            },
            {
                "name": "enable",
                "value": "false"
            }
        ]
    },
    {
        "default_value": "",
        "editable": false,
        "label": "Operating System",
        "variable_name": "OPERATINGSYSTEM",
        "visible": false,
        "properties": [
            {
                "name": "id",
                "value": "operatingSystem"
            },
            {
                "name": "enable",
                "value": "false"
            }
        ]
    },
    {
        "default_value": "",
        "editable": false,
        "label": "Requested Features",
        "variable_name": "FEATURESREQUESTED",
        "visible": false,
        "properties": [
            {
                "name": "id",
                "value": "features-requested"
            },
            {
                "name": "enable",

```

```

        "value": "false"
      }
    ]
  },
  {
    "default_value": "",
    "editable": false,
    "label": "Excluded Features",
    "variable_name": "FEATURESEXCLUDED",
    "visible": false,
    "properties": [
      {
        "name": "id",
        "value": "features-excluded"
      },
      {
        "name": "enable",
        "value": "false"
      }
    ]
  },
  {
    "default_value": "",
    "editable": false,
    "label": "Nodes Requested List",
    "variable_name": "NODESREQUESTED",
    "visible": false,
    "properties": [
      {
        "name": "id",
        "value": "nodes-requested"
      },
      {
        "name": "enable",
        "value": "false"
      }
    ]
  }
],
"version_description": "Default Free Form Application Template",
"version": 2
}
]
}

```

4.10.7 Get Single Template

In this topic:

[4.10.7.A URL](#)

[4.10.7.B Parameters](#)

[4.10.7.C Example](#)

4.10.7.A URL

GET /api/templates/<id>/

4.10.7.B Parameters

Parameter	Required	Type	Description	Example
id	Yes	Integer	ID of the application template.	1

4.10.7.C Example

GET /api/templates/1/

Response

```
{
  "url": "https://localhost:8080/api/templates/1/",
  "assigned": "ALL",
  "date": "2024-09-01",
  "id": 1,
  "name": "Free Form",
  "owner": "moab-admin",
  "permissions": [
    {
      "name": "ALL",
      "type": "account"
    },
    {
      "name": "ALL",
      "type": "group"
    },
    {
      "name": "ALL",
      "type": "user"
    }
  ],
  "published": true,
  "sections": [
    {
      "name": "defaults",
      "value": "Basic Job Settings"
    },
    {
      "name": "timeManagement",
      "value": "Time Management"
    },
    {
      "name": "credentials",
      "value": "Credentials"
    },
    {
      "name": "resources",
      "value": "Resources"
    }
  ]
}
```

```

        "name": "dataManagement",
        "value": "Data Management"
    },
    {
        "name": "custom",
        "value": "Custom Settings"
    }
],
"use": 3,
"widgets": [
    {
        "default_value": "",
        "editable": true,
        "label": "Name",
        "variable_name": "NAME",
        "visible": true,
        "properties": [
            {
                "name": "id",
                "value": "name"
            }
        ]
    },
    {
        "default_value": "",
        "editable": true,
        "label": "Duration",
        "variable_name": "DURATION",
        "visible": true,
        "properties": [
            {
                "name": "id",
                "value": "duration"
            }
        ]
    },
    {
        "default_value": "",
        "editable": false,
        "label": "Job Arrays",
        "variable_name": "arrays",
        "visible": false,
        "properties": [
            {
                "name": "id",
                "value": "arrays"
            },
            {
                "name": "enable",
                "value": "false"
            },
            {
                "name": "start-value",
                "value": "0"
            },
            {
                "name": "end-value",
                "value": "1"
            },
            {
                "name": "start-variable",
                "value": "STARTINDEX"
            },
            {
                "name": "end-variable",
                "value": "ENDINDEX"
            }
        ]
    }
]

```

```

    ],
    {
      "default_value": "",
      "editable": true,
      "label": "Delay Start By",
      "variable_name": "ELIGIBLEDATE",
      "visible": true,
      "properties": [
        {
          "name": "id",
          "value": "eligibledate"
        }
      ]
    },
    {
      "default_value": "0",
      "editable": true,
      "label": "User Priority",
      "variable_name": "PRIORITY",
      "visible": true,
      "properties": [
        {
          "name": "id",
          "value": "priority"
        },
        {
          "name": "enable",
          "value": "true"
        }
      ]
    },
    {
      "default_value": "",
      "editable": true,
      "label": "Submission Script",
      "variable_name": "SCRIPT",
      "visible": true,
      "properties": [
        {
          "name": "id",
          "value": "script"
        }
      ]
    },
    {
      "default_value": "",
      "editable": true,
      "label": "Account",
      "variable_name": "ACCOUNT",
      "visible": true,
      "properties": [
        {
          "name": "id",
          "value": "account"
        }
      ]
    },
    {
      "default_value": "",
      "editable": true,
      "label": "Queue / Class",
      "variable_name": "DESTINATIONQUEUE",
      "visible": true,
      "properties": [
        {
          "name": "id",

```

```

        "value": "destinationQueue"
    }
    ],
    {
        "default_value": "",
        "editable": true,
        "label": "Quality of Service",
        "variable_name": "QOS",
        "visible": true,
        "properties": [
            {
                "name": "id",
                "value": "qos"
            }
        ]
    },
    {
        "default_value": "",
        "editable": true,
        "label": "Number of Cores",
        "variable_name": "NUMOFCORES",
        "visible": true,
        "properties": [
            {
                "name": "id",
                "value": "cpuperiode"
            }
        ]
    },
    {
        "default_value": "0.5",
        "editable": true,
        "label": "Total Memory (GB)",
        "variable_name": "MEMORYPERNODE",
        "visible": true,
        "properties": [
            {
                "name": "id",
                "value": "memorypernode"
            }
        ]
    },
    {
        "default_value": "",
        "editable": true,
        "label": "Architecture",
        "variable_name": "ARCHITECTURE",
        "visible": true,
        "properties": [
            {
                "name": "id",
                "value": "architecture"
            }
        ]
    },
    {
        "default_value": "",
        "editable": true,
        "label": "Execution Path",
        "variable_name": "EXECUTIONDIRECTORY",
        "visible": true,
        "properties": [
            {
                "name": "id",
                "value": "exedir"
            }
        ]
    }
]

```

```

    ]
  },
  {
    "default_value": "",
    "editable": true,
    "label": "Error Path",
    "variable_name": "ERRORPATH",
    "visible": true,
    "properties": [
      {
        "name": "id",
        "value": "errorpath"
      }
    ]
  },
  {
    "default_value": "",
    "editable": true,
    "label": "Output Path",
    "variable_name": "OUTPUTPATH",
    "visible": true,
    "properties": [
      {
        "name": "id",
        "value": "outputpath"
      }
    ]
  },
  {
    "default_value": "false",
    "editable": true,
    "label": "Merge Streams",
    "variable_name": "JOIN",
    "visible": true,
    "properties": [
      {
        "name": "id",
        "value": "join"
      }
    ]
  },
  {
    "default_value": "false",
    "editable": true,
    "label": "Hold Job",
    "variable_name": "HOLD",
    "visible": true,
    "properties": [
      {
        "name": "id",
        "value": "hold"
      }
    ]
  },
  {
    "default_value": "",
    "editable": true,
    "label": "Script Shell",
    "variable_name": "SHELL",
    "visible": true,
    "properties": [
      {
        "name": "id",
        "value": "shell"
      }
    ]
  }
],

```

```

    {
      "default_value": "true",
      "editable": true,
      "label": "Moab Environment Variables",
      "variable_name": "MOABENVIRONMENTVARIABLES",
      "visible": true,
      "properties": [
        {
          "name": "id",
          "value": "moabenvironmentvariables"
        }
      ]
    },
    {
      "default_value": "",
      "editable": true,
      "label": "Email Notification List",
      "variable_name": "MAILLIST",
      "visible": true,
      "properties": [
        {
          "name": "id",
          "value": "maillist"
        }
      ]
    },
    {
      "default_value": "",
      "editable": true,
      "label": "Email Options",
      "variable_name": "EMAILOPTIONS",
      "visible": true,
      "properties": [
        {
          "name": "id",
          "value": "emailoptions"
        }
      ]
    },
    {
      "default_value": "",
      "editable": true,
      "label": "Generic Resources",
      "variable_name": "GENERICRESOURCES",
      "visible": true,
      "properties": [
        {
          "name": "id",
          "value": "genericresources"
        }
      ]
    },
    {
      "default_value": "",
      "editable": true,
      "label": "Feature Tags",
      "variable_name": "FEATURETAGS",
      "visible": true,
      "properties": [
        {
          "name": "id",
          "value": "featuretags"
        }
      ]
    }
  ]
}

```

4.10.8 Modify Template

This topic provides information on how to modify the application template itself (api/templates/<id>). See [4.10.9 Modify Template History](#) for information on how to modify the application template's history/version information (api/templates/<history_pk>/history/<version>).

These are the different methods that you can use to modify an application template:

- **PUT** – Creates a new application template version and enables you to modify and save template attribute changes to that version. The previous version is saved in the application template's history.
- **PATCH** – Lets you change whether the application template is published; all other template attributes, including the template version, remain unchanged.

In this topic:

[4.10.8.A PUT Method](#)

[4.10.8.B PATCH Method](#)

4.10.8.A PUT Method

In this section:

- [URL](#)
- [Parameters](#)
- [Example](#)

URL

```
PUT /api/templates/<id>/
```

Parameters

Parameter	Required	Type	Description	Example
id	Yes	Integer	ID of the application template.	1

Example

See [4.10.3 Create Template](#) for additional parameters you can modify.

4.10.8.B PATCH Method



You must specify the correct content type when using the PATCH API. If not specified, the API will consider the type as 'text/html', which might cause side effects in the request processing code.

In this section:

- [URL](#)
- [Parameters](#)
- [JSON Structure](#)
- [Example](#)

URL

```
PATCH /api/templates/<id>/
```

Parameters

Parameter	Required	Type	Description	Example
id	Yes	Integer	ID of the application template.	1

JSON Structure

This table identifies the template attributes that can be changed via a PATCH call.

Name	Required	Type	Description
published	No	Boolean	Application template's status: published or unpublished; if the application template is unpublished, then only owner can use it (not generally visible).

Example

This section provides an example of how to update application template 1 with the published tag unset.

```
PATCH /api/templates/1/
```

Request Body

```
{
  "published": false
}
```

```
}

```

Response

```
{
  "url": "https://localhost:8080/api/templates/1/",
  "assigned": "ALL",
  "date": "2024-09-01",
  "id": 1,
  "name": "My New Name",
  "owner": "hpotter",
  "permissions": [
    {
      "name": "ALL",
      "type": "account"
    },
    {
      "name": "ALL",
      "type": "group"
    },
    {
      "name": "ALL",
      "type": "user"
    }
  ],
  "published": false,
  "sections": [
    {
      "name": "defaults",
      "value": "Basic Job Settings"
    },
    {
      "name": "timeManagement",
      "value": "Time Management"
    },
    {
      "name": "credentials",
      "value": "Credentials"
    },
    {
      "name": "resources",
      "value": "Resources"
    },
    {
      "name": "dataManagement",
      "value": "Data Management"
    },
    {
      "name": "custom",
      "value": "Custom Settings"
    },
    {
      "name": "basic",
      "value": "Basic Settings"
    },
    {
      "name": "advanced",
      "value": "Advanced Settings"
    }
  ],
  "use": 0,
  "widgets": [

```

```

{
  "default_value": "",
  "editable": true,
  "label": "Name",
  "variable_name": "NAME",
  "visible": true,
  "properties": [
    {
      "name": "id",
      "value": "name"
    }
  ]
},
{
  "default_value": "0",
  "editable": true,
  "label": "Duration",
  "variable_name": "DURATION",
  "visible": true,
  "properties": [
    {
      "name": "id",
      "value": "duration"
    }
  ]
},
{
  "default_value": "",
  "editable": true,
  "label": "Job Arrays",
  "variable_name": "arrays",
  "visible": true,
  "properties": [
    {
      "name": "id",
      "value": "arrays"
    },
    {
      "name": "enable",
      "value": "true"
    },
    {
      "name": "start-value",
      "value": "0"
    },
    {
      "name": "end-value",
      "value": "1"
    },
    {
      "name": "start-variable",
      "value": "STARTINDEX"
    },
    {
      "name": "end-variable",
      "value": "ENDINDEX"
    }
  ]
},
{
  "default_value": "0",
  "editable": false,

```

```

    "label": "Delay Start By",
    "variable_name": "ELIGIBLEDATE",
    "visible": false,
    "properties": [
      {
        "name": "id",
        "value": "eligibledate"
      }
    ]
  },
  {
    "default_value": "0",
    "editable": false,
    "label": "User Priority",
    "variable_name": "USERPRIORITY",
    "visible": false,
    "properties": [
      {
        "name": "id",
        "value": "priority"
      },
      {
        "name": "enable",
        "value": "false"
      }
    ]
  },
  {
    "default_value": "",
    "editable": true,
    "label": "Submission Script",
    "variable_name": "SCRIPT",
    "visible": true,
    "properties": [
      {
        "name": "id",
        "value": "script"
      }
    ]
  },
  {
    "default_value": "",
    "editable": true,
    "label": "Account",
    "variable_name": "ACCOUNT",
    "visible": false,
    "properties": [
      {
        "name": "id",
        "value": "account"
      }
    ]
  },
  {
    "default_value": "",
    "editable": true,
    "label": "Queue / Class",
    "variable_name": "DESTINATIONQUEUE",
    "visible": false,
    "properties": [
      {
        "name": "id",

```

```

        "value": "destinationQueue"
    }
]
},
{
    "default_value": "",
    "editable": true,
    "label": "Quality of Service",
    "variable_name": "QOS",
    "visible": false,
    "properties": [
        {
            "name": "id",
            "value": "qos"
        }
    ]
},
{
    "default_value": "",
    "editable": true,
    "label": "Number of Cores",
    "variable_name": "NUMOFCORES",
    "visible": true,
    "properties": [
        {
            "name": "id",
            "value": "cpupernode"
        }
    ]
},
{
    "default_value": "0.5",
    "editable": true,
    "label": "Total Memory (GB)",
    "variable_name": "MEMORYPERNODE",
    "visible": true,
    "properties": [
        {
            "name": "id",
            "value": "memorypernode"
        }
    ]
},
{
    "default_value": "",
    "editable": true,
    "label": "Architecture",
    "variable_name": "ARCHITECTURE",
    "visible": true,
    "properties": [
        {
            "name": "id",
            "value": "architecture"
        }
    ]
},
{
    "default_value": "",
    "editable": true,
    "label": "Execution Path",
    "variable_name": "EXECUTIONDIRECTORY",
    "visible": false,

```

```

    "properties": [
      {
        "name": "id",
        "value": "exedir"
      }
    ]
  },
  {
    "default_value": "",
    "editable": true,
    "label": "Error Path",
    "variable_name": "ERRORPATH",
    "visible": false,
    "properties": [
      {
        "name": "id",
        "value": "errorpath"
      }
    ]
  },
  {
    "default_value": "",
    "editable": true,
    "label": "Output Path",
    "variable_name": "OUTPUTPATH",
    "visible": false,
    "properties": [
      {
        "name": "id",
        "value": "outputpath"
      }
    ]
  },
  {
    "default_value": "false",
    "editable": false,
    "label": "Merge Streams",
    "variable_name": "JOIN",
    "visible": false,
    "properties": [
      {
        "name": "id",
        "value": "join"
      }
    ]
  },
  {
    "default_value": "false",
    "editable": false,
    "label": "Hold Job",
    "variable_name": "HOLD",
    "visible": false,
    "properties": [
      {
        "name": "id",
        "value": "hold"
      }
    ]
  },
  {
    "default_value": "",
    "editable": false,

```

```

    "label": "Script Shell",
    "variable_name": "SHELL",
    "visible": false,
    "properties": [
      {
        "name": "id",
        "value": "shell"
      }
    ]
  },
  {
    "default_value": "true",
    "editable": false,
    "label": "Moab Environment Variables",
    "variable_name": "MOABENVIRONMENTVARIABLES",
    "visible": false,
    "properties": [
      {
        "name": "id",
        "value": "moabenvironmentvariables"
      }
    ]
  },
  {
    "default_value": "",
    "editable": false,
    "label": "Email Notification List",
    "variable_name": "MAILLIST",
    "visible": false,
    "properties": [
      {
        "name": "id",
        "value": "maillist"
      }
    ]
  },
  {
    "default_value": "",
    "editable": false,
    "label": "Email Options",
    "variable_name": "EMAILOPTIONS",
    "visible": false,
    "properties": [
      {
        "name": "id",
        "value": "emailoptions"
      }
    ]
  },
  {
    "default_value": "",
    "editable": false,
    "label": "Generic Resources",
    "variable_name": "GENERICRESOURCES",
    "visible": false,
    "properties": [
      {
        "name": "id",
        "value": "genericresources"
      }
    ]
  }
],

```

```

{
  "default_value": "",
  "editable": false,
  "label": "Feature Tags",
  "variable_name": "FEATURETAGS",
  "visible": false,
  "properties": [
    {
      "name": "id",
      "value": "featuretags"
    }
  ]
}
]
}

```

4.10.9 Modify Template History

This topic provides information on how to modify the application template's history/version number (api/templates/<history_pk>/history/<version>). See [4.10.8 Modify Template](#) for information on how to modify the application template itself (api/templates/<id>).

There are two different methods that you can use to modify an application template history/version number:

- **PUT** – Creates a copy of the selected application template history version and applies it as the current version for the application template (reverts the application template to a previous version's information).
- **PATCH** – Lets you modify the version description for the selected application template history version, all other attributes, including the template version, remain unchanged.

In this topic:

[4.10.9.A PUT Method](#)

[4.10.9.B PATCH Method](#)

4.10.9.A PUT Method

In this section:

- [URL](#)
- [Parameters](#)
- [Example](#)

URL

```
PUT /api/templates/<history_pk>/history/<version>/
```

Parameters

Parameter	Required	Type	Description	Example
history_pk	Yes	String	History ID of the application template.	b00ce08c-01ed-4a9d-a916-f587b9f1af44
version	Yes	Integer	Version of the application template.	2

Example

This section provides an example of how to take an older application template's version and copy and save it as a new (current) version.

```
PUT /api/templates/b00ce08c-01ed-4a9d-a916-f587b9f1af44/history/1/
```

Response

```
{
  "url": "https://localhost:8080/api/templates/5/",
  "history_url": "https://localhost:8080/api/templates/b00ce08c-01ed-4a9d-a916-f587b9f1af44/history/",
  "changed_by": "moab-admin",
  "current": true,
  "date": "2024-09-08T12:14:19.647410Z",
  "id": 5,
  "name": "Free Form v.2",
  "type": "regular",
  "description": {
    "text": "<h1><strong>Welcome
to our Free Form</strong> Application
Template!</h1>\n\n<p>Fill in the inputs and press the
\"Create\" button to submit your
job!</p>\n\n<p>-- Enjoy!</p>",
    "visible": true
  },
  "owner": "moab-admin",
  "permissions": [
    {
      "name": "ALL",
      "type": "account"
    },
    {
      "name": "ALL",
      "type": "group"
    },
    {
      "name": "ALL",
      "type": "user"
    }
  ]
},
```

```

"published": true,
"sections": [
  {
    "name": "description",
    "value": "Application Description"
  },
  {
    "name": "advanced",
    "value": "Advanced Settings"
  },
  {
    "name": "basic",
    "value": "Basic Settings"
  },
  {
    "name": "custom",
    "value": "Custom Settings"
  },
  {
    "name": "dataManagement",
    "value": "Data Management"
  },
  {
    "name": "resources",
    "value": "Resources"
  },
  {
    "name": "credentials",
    "value": "Credentials"
  },
  {
    "name": "timeManagement",
    "value": "Time Management"
  },
  {
    "name": "defaults",
    "value": "Basic Job Settings"
  }
],
"use": 0,
"widgets": [
  {
    "default_value": "ggg",
    "editable": true,
    "label": "Name",
    "variable_name": "NAME",
    "visible": true,
    "properties": [
      {
        "name": "id",
        "value": "name"
      },
      {
        "name": "enable",
        "value": "true"
      }
    ]
  },
  {
    "default_value": "0",
    "editable": true,
    "label": "Duration",

```

```

        "variable_name": "DURATION",
        "visible": true,
        "properties": [
            {
                "name": "id",
                "value": "duration"
            },
            {
                "name": "enable",
                "value": "true"
            }
        ]
    },
    {
        "default_value": "",
        "editable": false,
        "label": "Job Arrays",
        "variable_name": "arrays",
        "visible": false,
        "properties": [
            {
                "name": "id",
                "value": "arrays"
            },
            {
                "name": "enable",
                "value": "false"
            },
            {
                "name": "start-value",
                "value": "0"
            },
            {
                "name": "end-value",
                "value": "1"
            },
            {
                "name": "start-variable",
                "value": "STARTINDEX"
            },
            {
                "name": "end-variable",
                "value": "ENDINDEX"
            }
        ]
    },
    {
        "default_value": "0",
        "editable": true,
        "label": "Delay Start By",
        "variable_name": "ELIGIBLEDATE",
        "visible": true,
        "properties": [
            {
                "name": "id",
                "value": "eligibledate"
            },
            {
                "name": "enable",
                "value": "true"
            }
        ]
    }
]

```

```

    },
    {
      "default_value": "0",
      "editable": false,
      "label": "User Priority",
      "variable_name": "USERPRIORITY",
      "visible": false,
      "properties": [
        {
          "name": "id",
          "value": "priority"
        },
        {
          "name": "enable",
          "value": "true"
        }
      ]
    },
    {
      "default_value": "",
      "editable": true,
      "label": "Submission Script",
      "variable_name": "SCRIPT",
      "visible": true,
      "properties": [
        {
          "name": "id",
          "value": "script"
        }
      ]
    },
    {
      "default_value": "",
      "editable": true,
      "label": "Account",
      "variable_name": "ACCOUNT",
      "visible": true,
      "properties": [
        {
          "name": "id",
          "value": "account"
        },
        {
          "name": "enable",
          "value": "true"
        }
      ]
    },
    {
      "default_value": "",
      "editable": true,
      "label": "Queue / Class",
      "variable_name": "DESTINATIONQUEUE",
      "visible": true,
      "properties": [
        {
          "name": "id",
          "value": "destinationQueue"
        },
        {
          "name": "enable",
          "value": "true"
        }
      ]
    }
  ],
  {
    "default_value": "",
    "editable": true,
    "label": "Queue / Class",
    "variable_name": "DESTINATIONQUEUE",
    "visible": true,
    "properties": [
      {
        "name": "id",
        "value": "destinationQueue"
      },
      {
        "name": "enable",
        "value": "true"
      }
    ]
  }
],
{
  "default_value": "",
  "editable": true,
  "label": "Queue / Class",
  "variable_name": "DESTINATIONQUEUE",
  "visible": true,
  "properties": [
    {
      "name": "id",
      "value": "destinationQueue"
    },
    {
      "name": "enable",
      "value": "true"
    }
  ]
}

```

```

    }
  ]
},
{
  "default_value": "",
  "editable": true,
  "label": "Quality of Service",
  "variable_name": "QOS",
  "visible": true,
  "properties": [
    {
      "name": "id",
      "value": "qos"
    },
    {
      "name": "enable",
      "value": "true"
    }
  ]
},
{
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  "editable": true,
  "label": "Number of Cores",
  "variable_name": "NUMOFCORES",
  "visible": true,
  "properties": [
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    },
    {
      "name": "totalamount",
      "value": "True"
    },
    {
      "name": "nodeswithcount",
      "value": "True"
    },
    {
      "name": "malleablecorecount",
      "value": "False"
    },
    {
      "name": "totalamount_editable",
      "value": "False"
    },
    {
      "name": "nodeswithcount_editable",
      "value": "False"
    },
    {
      "name": "malleablecorecount_editable",
      "value": "False"
    },
    {
      "name": "totalamount_visible_default",
      "value": "True"
    },
    {
      "name": "nodeswithcount_visible_default",
      "value": "False"
    }
  ]
}

```

```

    },
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    },
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      "value": "1"
    },
    {
      "name": "totalnodes_default",
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      "value": "1"
    },
    {
      "name": "maximumcores_default",
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    },
    {
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      "value": "true"
    }
  ]
},
{
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  "editable": true,
  "label": "Total Memory (GB)",
  "variable_name": "MEMORYAMOUNT",
  "visible": true,
  "properties": [
    {
      "name": "id",
      "value": "memorypernode"
    },
    {
      "name": "totalmemory",
      "value": "True"
    },
    {
      "name": "memorypercore",
      "value": "True"
    },
    {
      "name": "totalmemory_visible_default",
      "value": "True"
    },
    {
      "name": "memorypercore_visible_default",
      "value": "True"
    },
    {
      "name": "totalmemory_default",
      "value": "0.5"
    }
  ],

```

```

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        },
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        },
        {
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            "value": "False"
        },
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            "value": "true"
        }
    ]
},
{
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    "variable_name": "ARCHITECTURE",
    "visible": true,
    "properties": [
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            "value": "architecture"
        },
        {
            "name": "enable",
            "value": "true"
        }
    ]
},
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    "variable_name": "EXECUTIONDIRECTORY",
    "visible": true,
    "properties": [
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            "value": "exedir"
        },
        {
            "name": "enable",
            "value": "true"
        }
    ]
},
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    "visible": true,
    "properties": [
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            "value": "errorpath"
        }
    ]
}

```

```

        },
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        },
        {
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            "value": "true"
        }
    ]
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            "value": "outputpath"
        },
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            "value": "True"
        },
        {
            "name": "enable",
            "value": "true"
        }
    ]
},
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    "editable": true,
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    "variable_name": "JOIN",
    "visible": true,
    "properties": [
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            "value": "join"
        },
        {
            "name": "enable",
            "value": "true"
        }
    ]
},
{
    "default_value": "false",
    "editable": true,
    "label": "Hold Job",
    "variable_name": "HOLD",
    "visible": true,
    "properties": [
        {
            "name": "id",
            "value": "hold"
        },
        {
            "name": "enable",

```

```

        "value": "true"
    }
]
},
{
    "default_value": "",
    "editable": true,
    "label": "Script Shell",
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    "visible": true,
    "properties": [
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            "value": "shell"
        },
        {
            "name": "enable",
            "value": "true"
        }
    ]
},
{
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    "editable": true,
    "label": "Moab Environment Variables",
    "variable_name": "MOABENVIRONMENTVARIABLES",
    "visible": true,
    "properties": [
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            "name": "id",
            "value": "moabenvironmentvariables"
        },
        {
            "name": "enable",
            "value": "true"
        }
    ]
},
{
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    "editable": true,
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    "variable_name": "MAILLIST",
    "visible": true,
    "properties": [
        {
            "name": "id",
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        },
        {
            "name": "enable",
            "value": "true"
        }
    ]
},
{
    "default_value": "",
    "editable": true,
    "label": "Email Options",
    "variable_name": "EMAILOPTIONS",
    "visible": true,
    "properties": [

```

```

        {
            "name": "id",
            "value": "emailoptions"
        },
        {
            "name": "enable",
            "value": "true"
        }
    ]
},
{
    "default_value": "",
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    "visible": true,
    "properties": [
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            "value": "genericresources"
        },
        {
            "name": "enable",
            "value": "true"
        }
    ]
},
{
    "default_value": "",
    "editable": true,
    "label": "Job Environment Variables",
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    "visible": true,
    "properties": [
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            "name": "id",
            "value": "jobEnvVariables"
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        }
    ]
},
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    "visible": false,
    "properties": [
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            "name": "id",
            "value": "moabtemplates"
        },
        {
            "name": "enable",
            "value": "false"
        }
    ]
},
{

```

```

        "default_value": "SHARED",
        "editable": false,
        "label": "Node Access Policy",
        "variable_name": "NODEACCESSPOLICY",
        "visible": false,
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                "name": "id",
                "value": "node-access-policy"
            },
            {
                "name": "enable",
                "value": "false"
            }
        ]
    },
    {
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        "editable": false,
        "label": "Node Allocation Policy",
        "variable_name": "NODEALLOCATIONPOLICY",
        "visible": false,
        "properties": [
            {
                "name": "id",
                "value": "node-allocation-policy"
            },
            {
                "name": "enable",
                "value": "false"
            }
        ]
    },
    {
        "default_value": "EXACTSET",
        "editable": false,
        "label": "Node Requested Policy",
        "variable_name": "NODESREQUESTEDPOLICY",
        "visible": false,
        "properties": [
            {
                "name": "id",
                "value": "nodes-requested-policy"
            },
            {
                "name": "enable",
                "value": "false"
            }
        ]
    },
    {
        "default_value": "",
        "editable": false,
        "label": "Operating System",
        "variable_name": "OPERATINGSYSTEM",
        "visible": false,
        "properties": [
            {
                "name": "id",
                "value": "operatingSystem"
            },
            {

```

```

        "name": "enable",
        "value": "false"
    }
]
},
{
    "default_value": "",
    "editable": false,
    "label": "Requested Features",
    "variable_name": "FEATURESREQUESTED",
    "visible": false,
    "properties": [
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            "name": "id",
            "value": "features-requested"
        },
        {
            "name": "enable",
            "value": "false"
        }
    ]
},
{
    "default_value": "",
    "editable": false,
    "label": "Excluded Features",
    "variable_name": "FEATURESEXCLUDED",
    "visible": false,
    "properties": [
        {
            "name": "id",
            "value": "features-excluded"
        },
        {
            "name": "enable",
            "value": "false"
        }
    ]
},
{
    "default_value": "",
    "editable": false,
    "label": "Nodes Requested List",
    "variable_name": "NODESREQUESTED",
    "visible": false,
    "properties": [
        {
            "name": "id",
            "value": "nodes-requested"
        },
        {
            "name": "enable",
            "value": "false"
        }
    ]
}
],
"version_description": "Default Free Form Application Template",
"version": 2
}
]
}

```

4.10.9.B PATCH Method

 You must specify the correct content type when using the PATCH API. If not specified, the API will consider the type as 'text/html', which might cause side effects in the request processing code.

In this section:

- [URL](#)
- [Parameters](#)
- [JSON Structure](#)

URL

PATCH /api/templates/<history_pk>/history/<version>/

Parameters

Parameter	Required	Type	Description	Example
history_pk	Yes	String	History ID of the application template.	b00ce08c-01ed-4a9d-a916-f587b9f1af44
version	Yes	Integer	Version of the application template.	2

JSON Structure

This table identifies the application template attributes that can be changed via PATCH call.

Name	Required	Type	Description
version_description	No	String	Description of changes in this application template's version.

Chapter 5: Nodes

Viewpoint lets you view all of the nodes reported to Moab by your resource manager. Specifically:

- The **Nodes** page (default) offers a place to determine the status of your compute nodes, how many jobs are running on each node, what features are on each node, and other information.
- The **Node Details** page provides additional details about a node.
- The **Resource Job Timeline** page is a sub-page of the **Nodes** page that displays information about the jobs and reservations that are running on a set of nodes.

In this chapter:

- [5.1 Nodes Page](#)
- [5.2 Node Details Page](#)
- [5.3 Resource Job Timeline Page](#)
- [5.4 Threshold Settings](#)

5.1 Nodes Page

The **Nodes** page offers a place to determine the status of your compute nodes, how many jobs are running on each node, what features are on each node, and other information.

To access this page, click `Nodes` in the menu bar.

This topic provides an example of the **Nodes** page and describes its layout and available information.

In this section:

[5.1.1 Page Example](#)

[5.1.2 Selection Criteria Area](#)

[5.1.3 Nodelist View Details](#)

5.1.1 Page Example

This is an example of the **Nodes** page:

HOMEWORKLOADREPORTINGTEMPLATESNODESFILE MANAGERSESSIONSCONFIGURATION

Nodes

Refresh Interval15s

Node ID	Status	Cores Availabl...	Jobs	Utilization CPU/...	Time to Live	Operational Task
 node-001	IDLE	4/4	0	0/0	N/A	N/A
 node-002	IDLE	4/4	0	0/0	N/A	N/A
 node-003	IDLE	4/4	0	0/0	N/A	N/A
 node-004	RUNNING	3/4	1	25/25	N/A	N/A
 node-005	RUNNING	3/4	1	25/25	N/A	N/A
 node-006	RUNNING	3/4	1	25/25	N/A	N/A
 node-007	RUNNING	3/4	1	25/25	N/A	N/A
 node-008	IDLE	4/4	0	0/0	N/A	N/A
 node-009	IDLE	4/4	0	0/0	N/A	N/A
 node-010	IDLE	4/4	0	0/0	N/A	N/A

Show10entries

←prev12next→

Current Search: 20 results returned

- Select -

Narrow Search

Filters

Select Status

Select Type

Processors0To∞

CPU Utilization0To∞

Memory Utilization0To∞

RESETFILTER

5.1.2 Selection Criteria Area

The right side of this page provides selection criteria you can use to limit what is displayed in the nodelist view.

You can choose to display:

- Specific nodes or groups of nodes based on the Node ID, Class, or Feature information. Select the value from the `Current Search` drop-down, in the `Narrow Search` field, enter the specific information, and then click .
- Only nodes matching a specific status (state). Select the status from the `Select Status` drop-down and then click `Filter`.
- Only nodes within a given processor, job, CPU utilization, and/or memory utilization range. Select the minimum and maximum values and then click `Filter`.

 You can utilize multiple selection criteria options; however, only the nodes that match all of the defined options will be shown in the nodelist view.

Click `Reset` at any time to remove all defined selection criteria options (restore the page defaults).

5.1.3 Nodelist View Details

The following information explains the layout and additional information available in the nodelist view:

- **Display Refresh** – You can refresh the information displayed in the nodelist view (including specified search and filter criteria) to reflect the latest information about the nodes. At the top of the nodelist view, click .
- **Refresh Interval** – You can set a time interval for automatic refresh of the nodelist view. Select a time interval from the drop-down list or select `NONE` to turn off automatic refresh.
- **Resource Job Timeline** – You can switch from viewing the nodelist to the Resource Job Timeline by clicking  at the top right corner of the nodelist (the icon is grayed out until it is selected). See [5.3 Resource Job Timeline Page](#) for more information.
- **Columns** – The nodelist view displays the data in a column format. Column titles that are underlined indicate that you can sort (ascending or descending) the column

contents.

Column Heading	Description
Node ID	Unique identifier for the node. You can click a node ID in the column's contents to view additional information about that node. See 5.2 Node Details Page .
Status	State of the node (for example, BUSY, IDLE, or DOWN).
Cores Available/Configured	Number of processors on this node displayed as available/configured; where configured is the number of processors being reported by the resource manager.
Jobs	Number of jobs running on this node.
Utilization CPU/Memory	Percentage of this node's CPU utilization; based on the node's operating system reported CPU load average/Percentage of this node's memory that is dedicated to currently running jobs.
Time to Live	Specifies the time that the node is supposed to be retired by Moab. Moab will not schedule any jobs on a node after its time to live has passed.
Operational Task	Indicates whether the node is provisioning or deprovisioning (or N/A for all other operations).

- **Page Controls** – Page controls are available at the bottom of the nodeslist view to let you customize how many nodes appear per page. The page controls also include options for selecting which page to display.

5.2 Node Details Page

The **Node Details** page shows additional information about a selected node.

To access this page, from the **Nodes** page, click on the Node ID link for the node.

i If you defined selection criteria on the **Nodes** page, when you are done with the **Nodes Details** page, click the 'Return to earlier search' link to preserve the criteria; otherwise, click `Close` to return to the default state of the **Nodes** page.

This topic provides an example of the **Nodes Details** page and describes its layout and available information.

In this section:

[5.2.1 Page Example](#)

[5.2.2 Page Details](#)

5.2.1 Page Example

This is an example of the **Node Details** page:

HOMEWORKLOADREPORTINGTEMPLATESNODSFILE MANAGERSESSIONSCONFIGURATION



node-003
State:Running

Node Details

PowerNone

Operating SystemRhel6

Resource Managersnativerm

Jobs1

ReservationsNone

Resources

Real Cores4

Available Cores3

Real Memory (GB)2

Available Memory (GB)1.50

CPU Utilization27.5%

Generic Resource	Count
alpha	4
bravo	4
charlie	4

Features

feature1

feature2

feature3

Node Jobs

Refresh Interval15s

Job ID	Job Name	Submitter ID	Start Date	Submit Date	Queue Status	Cores	Nodes	Wall Clock
Moab1830	TestArray2	hgranger	N/A	2024-02-21 14:37:38	ACTIVE	1	0	00:00:10:00

Show5entries

prev

1

next

Close

5.2.2 Page Details

This section describes the different functional areas, including field descriptions, available on the **Node Details** page:

- [Node Details](#)
- [Resources](#)

- [Features](#)
- [Node Jobs](#)

5.2.2.A Node Details

The **Node Details** area displays specific information about the node. The following table describes the fields in the **Node Details** area:

Field	Description
Name	The ID of the node.
State	The current state of the node or resource (such as BUSY, IDLE, DOWN).
Power	The power state of the node.
Operating System	The name of the operating system currently running on this node.
Resource Managers	List of resource managers that report the node.
Jobs	The number of jobs running on this node.
Reservations	List of reservations that include this node.

5.2.2.B Resources

The **Resources** area displays information about the node's available and allocated resources. The following table describes the fields in the **Resources** area:

Field	Description
Real Cores	The number of processors on the node.
Available Cores	The number of processors that are not dedicated to currently running jobs.
Real memory (GB)	The amount of memory (in GB) on the node.
Available	The amount of memory (in GB) that is available on the node.

Field	Description
memory (GB)	
CPU utilization	The current CPU utilization of the node; based on the node's operating system reported cpu load average.
Generic Resource -Count	The generic resources required by the node or resource.

5.2.2.C Features

The **Features** area lists the reported and the configurable features for this node:

- Reported features are the node features that were reported by the resource manager or configured in the Moab configuration file. You cannot remove these features in the **Features** area.
- Configurable features are the node features that were added using the Viewpoint portal (additional features available through MWS). You can add/remove these features in the **Features** area.

5.2.2.D Node Jobs

The **Node Jobs** area lists the job information for this node. See [3.1 Workload Page](#) for more information on the job fields.

5.3 Resource Job Timeline Page

The **Resource Job Timeline** page is a sub-page of the **Nodes** page that displays information about the jobs and reservations that are running on a set of nodes. You can also utilize selection criteria to narrow the results shown graphically in the timeline view.

To access this page, from the **Nodes** page, click  (the icon is grayed out until it is selected).



The Resource Job Timeline View, by default, is set to show the last 24 hours and the next 4 hours when you first visit the page. Depending on how many jobs run in your cluster per day and how many nodes you are viewing, that time window might contain too many objects for the browser to display. You can change the default setting. See [5.4 Threshold Settings](#) for more information.

This topic provides an example of the **Resource Job Timeline** page and describes its layout and available information.

In this section:

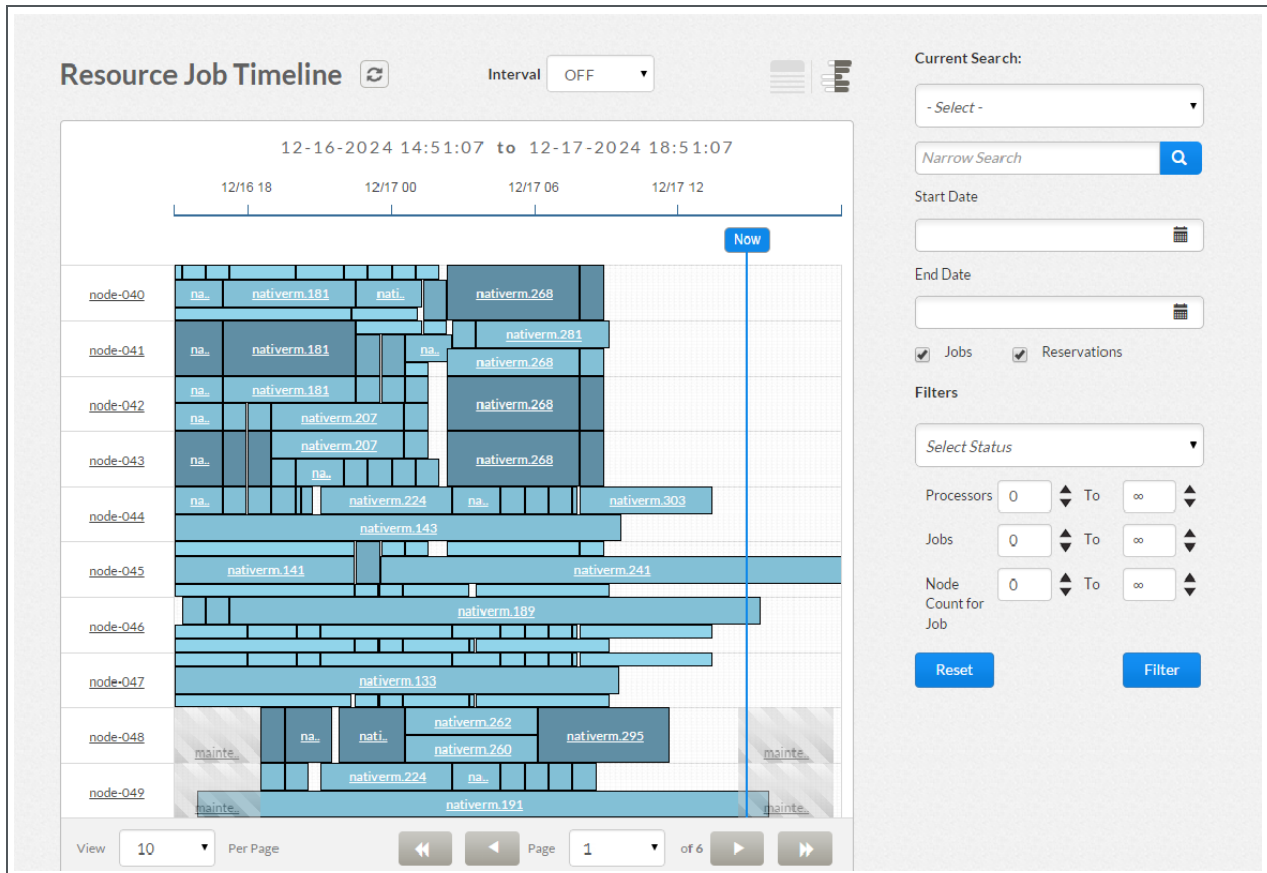
[5.3.1 Page Example](#)

[5.3.2 Selection Criteria Area](#)

[5.3.3 Graphical Timeline View Details](#)

5.3.1 Page Example

This is an example of the **Resource Job Timeline** page:



5.3.2 Selection Criteria Area

The right side of this page provides selection criteria you can use to limit what is displayed in the graphical timeline view.

You can choose to display:

- Specific jobs and/or reservations based on node, job and/or reservation ID information. Select the value from the **Current Search** drop-down, in the **Narrow Search** field, enter the specific information, and then click .
- Jobs and/or reservations within a given start and end date range. In the **Start Date** and **End Date** fields, select the desired dates, and then click **Filter**.

- Jobs, reservations, or both. Click the desired check boxes, and then click `Filter`.

i The `Jobs` check box is selected by default. If you chose to narrow the search by reservation ID, the `Reservations` check box is automatically selected. When both the `Reservations` check box and the `Jobs` check box are selected, and jobs and reservations co-exist in the same time frame and on the same node, the Reservation block overlaps the Job block on the timeline.

- Only nodes matching a specific status (state). Select the status from the `Select Status` drop-down and then click `Filter`.
- Only regular nodes or only elastic nodes. Select the node type from the `Select Type` drop-down and then click `Filter`.
- Only nodes within a given processor and/or node count. Select the minimum and maximum values and then click `Filter`.

i You can utilize multiple selection criteria options; however, only the nodes that match all of the defined options will be shown in the nodelist view.

Click `Reset` at any time to remove all defined selection criteria options (restore the page defaults).

5.3.3 Graphical Timeline View Details

The following information explains the layout and additional information available in the graphical timeline view:

- **Refresh Interval** – You can refresh the information displayed in the graphical timeline view to reflect the latest information about the jobs running on the nodes. The refresh options are at the top of the graphical time view.
 - The `Refresh Interval` field lets you select a time interval for which the graphical timeline view will automatically refresh.
 - You can also click , at any time, to manually update the graphical timeline view.
- **List of Nodes** – The list of nodes (by node ID) is displayed on the vertical axis on the left.
 - Hover your pointer over the node ID to see the number of processors configured on the node.

- Click on the node ID to view additional information about that node. See [5.2 Node Details Page](#) for more information.
- **Time Span** – The time span is displayed on the horizontal axis at the top. The vertical blue line with the 'Now' label denotes the current time.
- **Jobs** – Jobs are visible on the timeline only if the `Jobs` check box is selected. A job that is running on a particular node is displayed against the node on the timeline in the form of a blue block. The color shade of the job block indicates the number of processors used for the job. The darker shade indicates more processors, and the lighter shade indicates fewer processors being used for the job (relative to your cluster's average job size). The vertical height of the block indicates the number of processors that the job is using on a particular node. For example, if a job is using 2 out of 4 processors on a particular node, then the job will take up 50 percent of the height of the Node ID row.
 - Hover your pointer over the job block to display additional information (such as the job's start and stop time, the number of processors that the job is occupying on the node, and the wallclock limit time).
 - Click on the job block to open the **Job Details** page to view additional information about that job on that node. See [3.2 Job Details Page](#) for more information.
- **Reservations** – Reservations are visible on the timeline only if the `Reservations` check box is selected. A reservation that is running on a particular node is displayed against that node on the timeline in the form of a gray block. If a job and a reservation co-exist in the same time frame and for the same node, then the reservation block is displayed over the job block.
- **Page Controls** – Page controls are available at the bottom of the graphical timeline view to let you customize how many nodes appear per page.

5.4 Threshold Settings

This topic contains instructions on how to configure Insight and Viewpoint settings to adjust the amount of data displayed by Viewpoint.

The **Resource Job Timeline View**, by default, is set to show the last 24 hours and the next 4 hours when you first visit the page. Depending on how many jobs run in your cluster per day and how many nodes you are viewing, that time window might contain too many objects for the browser to display.

You can change the default time window by editing `PAST_HOURS` and `FUTURE_HOURS` in `/opt/viewpoint/etc/viewpoint.cfg`.

You can change the default limit on the number of objects to display by editing `RJTV_THRESHOLD` in `/opt/viewpoint/lib/viewpoint/config/config.json`.

Chapter 6: File Manager

Viewpoint lets you connect to a remote file system (RFS) to upload and download files directly from the portal. For example, you can upload or download job submission scripts, access standard output or error files, and upload input files for your job.

Specifically, the **File Manager** page (default) lists all of the folders and files that you can access. Using this page, you can upload files, create folders, and perform various file and folder maintenance options (such as download, compress, or delete).



You can restrict system folder access using the **Configuration** page. To use the **File Manager** page, users must have an operating system account on the RFS and be assigned a role that has the **File Manager** page Viewpoint permission selected.

In this chapter:

- [6.1 File Manager Page](#)
- [6.2 Uploading Files](#)
- [6.3 Creating Folders](#)
- [6.4 Maintaining Files and Folders](#)

6.1 File Manager Page

The **File Manager** page lets users organize and manage files on the RFS. For example, you can upload a script or an application template, or you can save an output or error file.

To access this page, click `FILE MANAGER` from the menu.

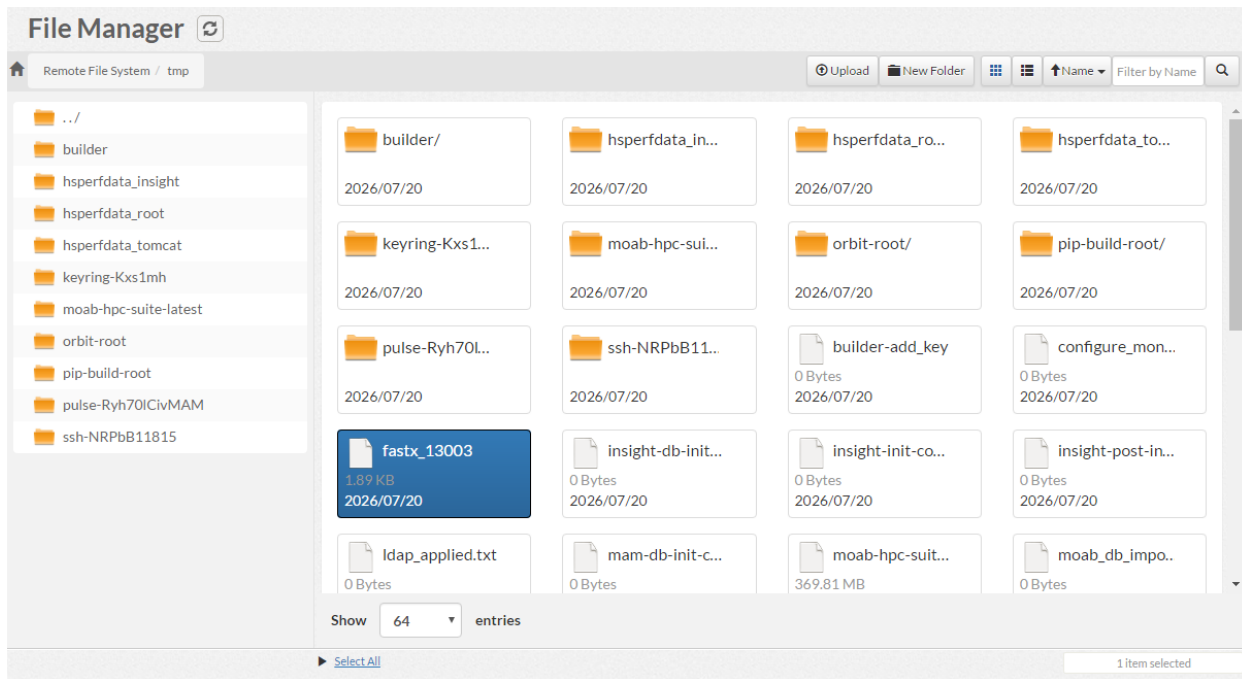
This topic provides an example of the **File Manager** page and describes its layout and available information.

In this section:

- [6.1.1 Page Example](#)
- [6.1.2 Page Details](#)
- [6.1.3 Additional Functions](#)

6.1.1 Page Example

This is an example of the **File Manager** page:



6.1.2 Page Details

This section describes the functional areas of the **File Manager** page:

- [6.1.2.A Directory Structure](#)
- [6.1.2.B View Settings](#)
- [6.1.2.C Folder/File Creation Buttons](#)

6.1.2.A Directory Structure

At the top of the **File Manager** page, you will see the Home icon and the directory path box. Using the **File Manager** page example provided earlier, you will see Remote File System/home/hgranger in the directory box.

The **File Manager** page uses a left pane to list the folders available in the selected directory. The main pane lists the folders *and* any files in that directory.

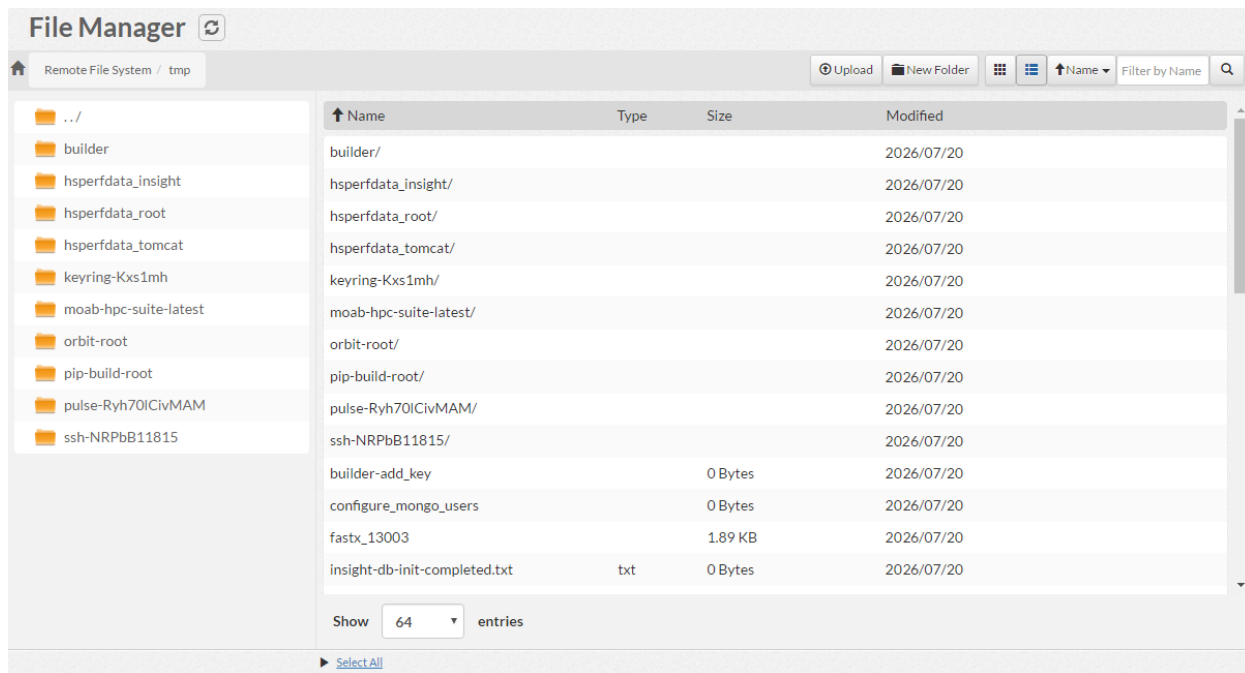
If you select a folder in the left pane, the directory path changes, and the left and main panes display the applicable folders/files. Click the Home icon at any time to go directly to your home directory.

6.1.2.B View Settings

You can change whether the main pane shows the directory contents in grid or list view by clicking the appropriate icon at the top right of the page.

i If you use the list view, the folders will have / at the end of their name and the files will have information in the Size column.

This is an example of the directory list view:



Controls are also provided to sort files by name, file type, date modified, or size, change the sort order, and filter files by name.

6.1.2.C Folder/File Creation Buttons

Viewpoint lets you upload a file and/or create a new folder. To enable this functionality, two buttons are available towards the top of this page:

- **Upload** – Opens up a pop-up window that lets you upload an existing file from the RFS. See [6.2 Uploading Files](#).
- **New Folder** – Opens up a pop-up window that lets you specify the name of the new folder. See [6.3 Creating Folders](#).

i The new folder/file is saved in the active directory (shown in the directory box).

6.1.3 Additional Functions

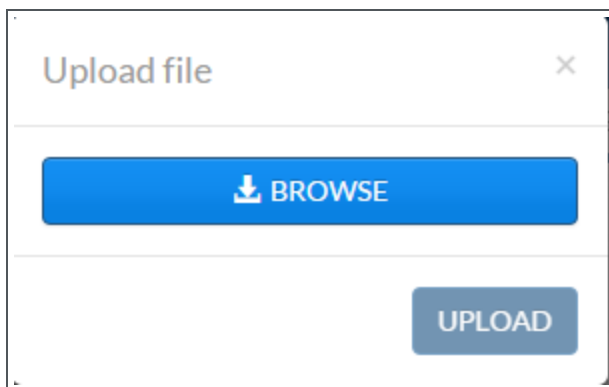
The **File Manager** page also includes a drop-down with shortcuts to perform additional folder-/file-related functions. See [6.4 Maintaining Files and Folders](#) for details.

6.2 Uploading Files

This topic provides information on how to upload files from the RFS.

To upload files, do the following.

1. Access the **File Manager** page (click `File Manager` in the menu bar).
2. Navigate to the directory where you want the uploaded file to be contained.
3. At the top of the page, click `Upload`. The **Upload file** pop-up window appears:



4. Click `BROWSE` and navigate to where the file is located on the RFS.
5. You can also select multiple files or folders using your operating system's respective functions used in selecting multiple files anywhere on the list. For example, control or shift clicking the files you want to upload.
6. When the file content appears in the **Upload file** window, click `UPLOAD`.

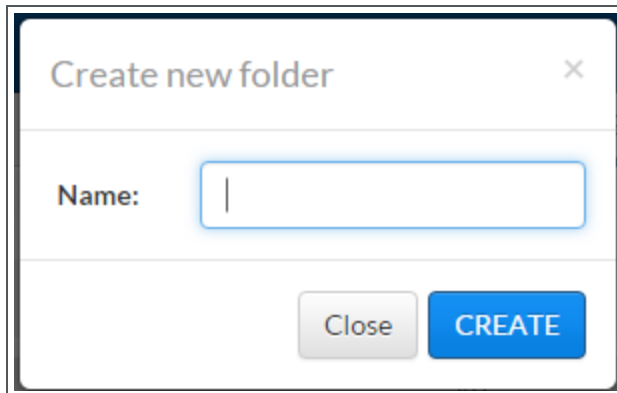
6.3 Creating Folders

This topic provides information on how to add new folders.

i You can only create new folders in the directories to which you have been granted access.

To create folders, do the following.

1. Access the **File Manager** page (click `File Manager` in the menu bar).
2. Navigate to the directory where you want the new folder to be contained.
3. Click `New Folder`. The **Create new folder** pop-up window appears:



4. Enter the name for this folder and click `CREATE`; otherwise, click `Close` to exit this window without creating a folder.

6.4 Maintaining Files and Folders

This topic provides information on the different tasks available for maintaining files and folders, including where to access the maintenance options.

In this section:

[6.4.1 Available Maintenance Options](#)

[6.4.2 Access Maintenance Options](#)

6.4.1 Available Maintenance Options

Viewpoint provides these options for maintaining files and folders:

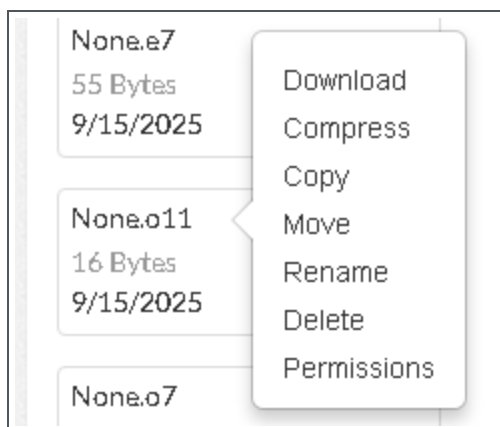
- **Compress** – Lets you create a copy of the file/folder in a compressed (zipped) format.
- **Copy** – Lets you save a copy of the file/folder in another location.
- **Delete** – Removes the file/folder.
- **Download** – Lets you download the file/folder.

- **Move** – Lets you change the location of the folder/file (without creating a copy).
- **Permissions** – Lets you view the read/write/execute permissions for Owner/Group/Others. The owner of the folder/file can also change the permissions.
- **Rename** – Lets you change the name of the folder/file.

6.4.2 Access Maintenance Options

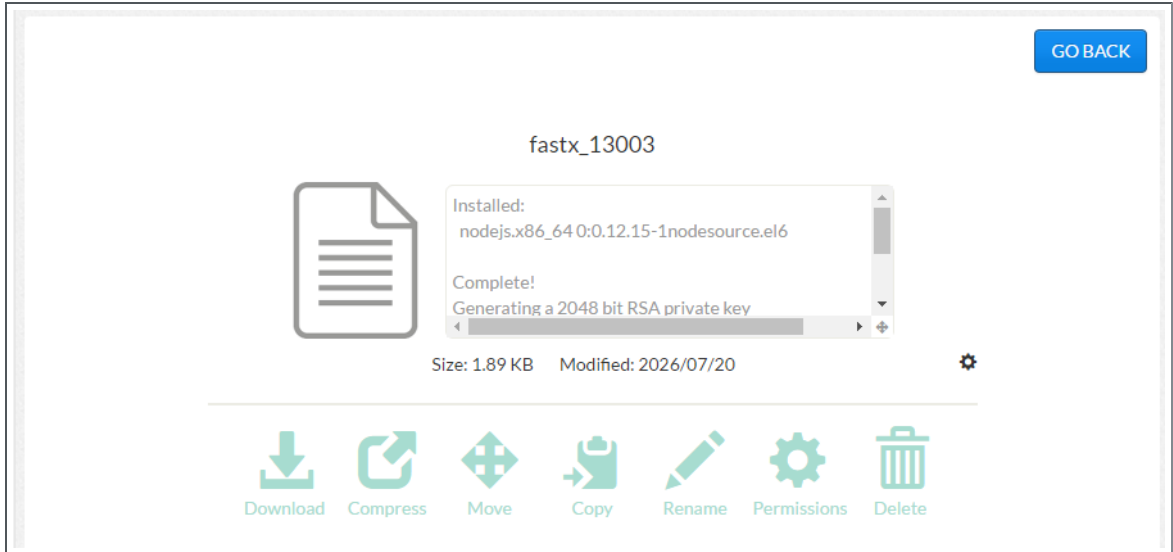
The **File Manager** page provides two places where you can access folder/file maintenance options:

- In the main pane, hover your pointer over the folder/file to display . Click this icon to display a drop-down containing the available maintenance functions:

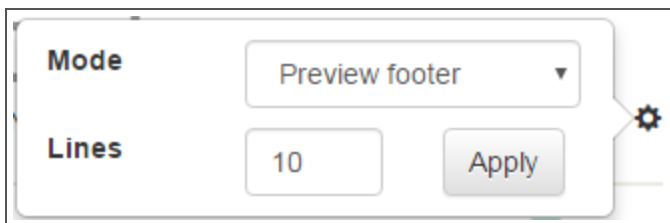


i You can also apply the same maintenance option to several files/folders at the same time. Click **Select All** or **Select All Files** or use the Shift or Ctrl key commands to select multiple files/folders and then display the drop-down. The item you select from the drop-down is applied to all the selected folders/files.

- After you have selected an individual file (clicked the file name, not the icon for the drop-down on the main pane), the file information displays in the main pane. A preview of the file displays and the different maintenance options are represented by icons, for example:

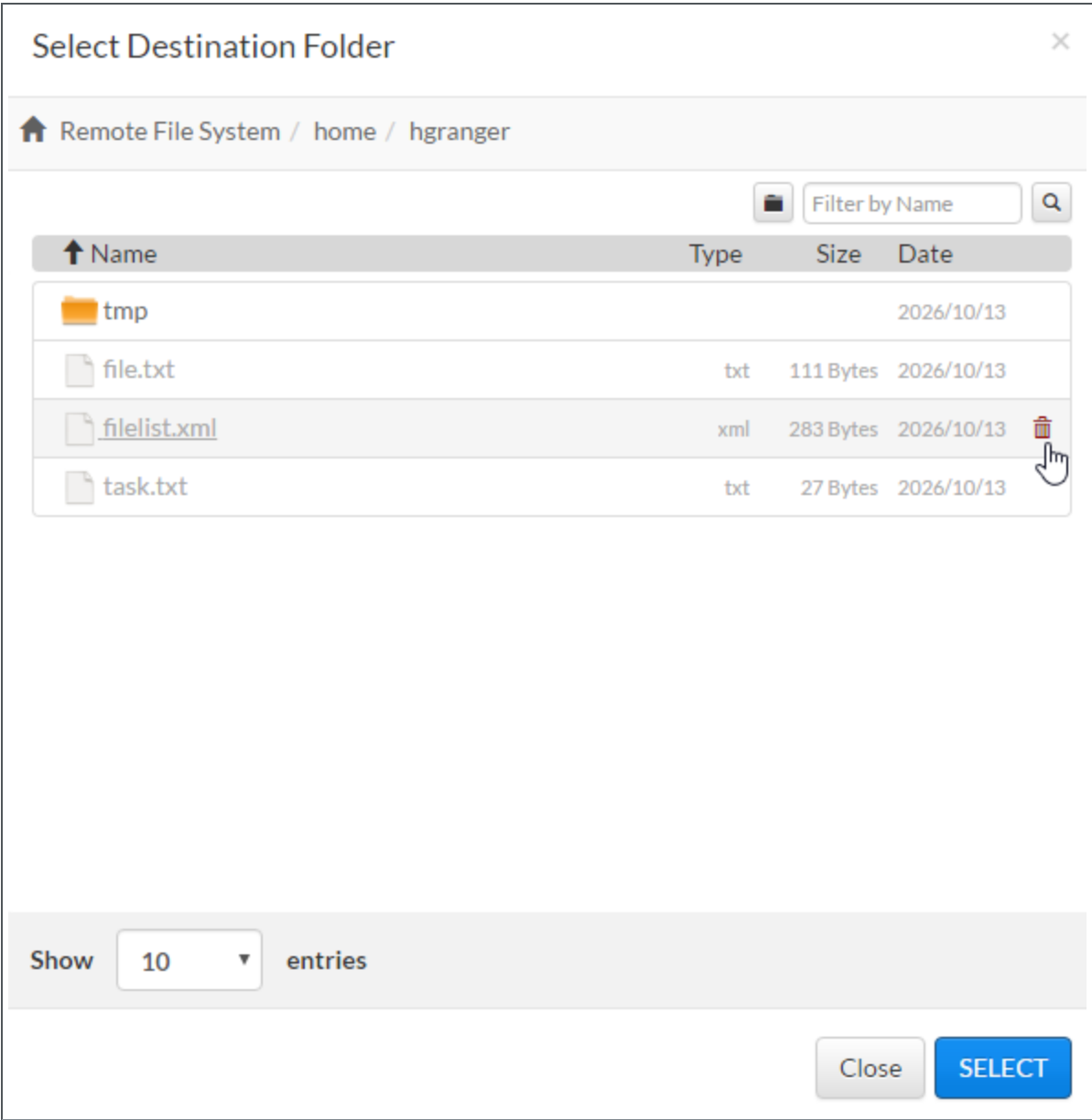


- You can also preview information about your file by clicking the ⚙ icon. Clicking this icon will bring up a menu that lets you choose your preview mode as well as how many lines you want to view:



- When moving or copying a file, File Manager displays a destination dialog that lets you select a folder where you want the file to be moved or copied. The destination dialog includes controls to create a folder, filter files or folders by name, to select the number of file and folder entries displayed in the list, and to sort the file/folder list in ascending or descending order by name, file type, size, or last modified date.

You can also delete a file or folder by hovering your pointer over the file/folder entry in the list and clicking the trashcan icon that appears next to the file entry:



Chapter 7: Reporting

Viewpoint lets you create aggregated data views that combine, organize, and summarize data from multiple sources. You can then create reports that summarize and present data from the aggregated views, and then combine reports into dashboards that display data from a variety of sources in ways that communicate job and workload data at a glance. Specifically:

- The **Aggregated Views** page lists available aggregated views that summarize and display data. You can extract and manipulate data from various sources to create new aggregated views. See [7.2 Aggregated Views Page](#) for more information.
- The **Reports** page lists the reports available to you for customizing and including in dashboards. You can also create new reports. See [7.3 Reports Page](#) for more information.
- The **Dashboards** page lists available dashboards for you to view or edit. You can also combine reports to create new dashboards. See [7.4 Dashboards Page](#) for more information.

Viewpoint is delivered with sample aggregated views, reports, and dashboards for you to customize or use as guides when creating your own aggregated views, reports, and dashboards.

In this chapter:

- [7.1 Reporting Roles](#)
- [7.2 Aggregated Views Page](#)
- [7.3 Reports Page](#)
- [7.4 Dashboards Page](#)

7.1 Reporting Roles

Viewpoint provides a set of Reporting user roles that can be assigned to provide a user permissions to use, create, or manage aggregated views, reports, and dashboards. See [1.4.4 Default Roles](#) for more information about Reporting roles.

Related Topics

- [1.4 About Roles](#)
- [1.4.4 Default Roles](#)

7.2 Aggregated Views Page

The **Aggregated Views** page lets you manage, create, and view aggregated data views that combine, summarize, and present data from multiple sources.

To access this page, click `REPORTING` in the menu bar, then click the **Aggregated Views** tab.

In this section:

- [7.2.1 Aggregated Views Page Example](#)
- [7.2.2 Viewing an Aggregated View](#)
- [7.2.3 Viewing an Aggregated View Pipeline](#)
- [7.2.4 Creating an Aggregated View](#)
- [7.2.5 Importing an Aggregated View](#)
- [7.2.6 Editing an Aggregated View](#)
- [7.2.7 Designing an Aggregated View](#)
- [7.2.8 Provided Aggregated Views](#)

7.2.1 Aggregated Views Page Example

This is an example of the **Aggregated Views** page:

MoabVIEWPOINT

Welcome, [Sign Out](#)  

HOME

WORKLOAD

REPORTING

TEMPLATES

NODES

FILE MANAGER

SESSIONS

CONFIGURATION

DASHBOARDS

REPORTS

AGGREGATED VIEWS

Status of processing application: **RUNNING**

Name	Description	Create date	Deployed	Used	Owner
availability_and_utilization_...	N/A	2026-12-13	Yes	1	moab-admin
availability_and_utilization_...	N/A	2026-12-13	Yes	1	moab-admin
availability_and_utilization_...	N/A	2026-12-13	Yes	1	moab-admin
availability_and_utilization_...	N/A	2026-12-13	Yes	1	moab-admin
availability_and_utilization_...	N/A	2026-12-13	Yes	1	moab-admin
how_long_did_each_job_wai...	N/A	2026-12-13	Yes	1	moab-admin
how_long_was_the_job_stuc...	N/A	2026-12-13	Yes	1	moab-admin
how_many_unique_users_ra...	N/A	2026-12-13	Yes	1	moab-admin
list_of_the_reservations_that...	N/A	2026-12-13	Yes	1	moab-admin
overall_availability_and_util...	N/A	2026-12-13	Yes	2	moab-admin

Show

10

entries

←

prev

1

2

3

next

→

CREATE AGGREGATED VIEW

IMPORT

Filters: 23 results returned

☐

- Name -

☐

Date Created

☐

- Owner -

RESET

FILTER

In this topic:

[7.2.1.A Page Details](#)

[7.2.1.B Additional Functions](#)

7.2.1.A Page Details

This section describes the functional areas of the **Aggregated Views** page.

Aggregated View List

The main pane of the **Aggregated Views** page lists the aggregated views and their corresponding information in a column format.

i Column titles that are underlined indicate that you can sort (ascending or descending) the column contents.

Page controls are available at the bottom of the aggregated view list to let you customize how many aggregated views appear at a time in the list. These controls also include options for moving between pages of listed aggregated views.

This table describes the different columns and their contents:

Column Heading	Description
Name	Name used to identify the aggregated view. Click on the aggregated view's name to open the aggregated view and view additional information about the aggregated view.
Description	A description of the aggregated view.
Create Date	Date the aggregated view was created.
Used	Number of times the aggregated view has been used in a report.
Owner	Name of the user who created the aggregated view.

Filters

Filters let you specify what is displayed in the list of aggregated views on the main pane.

To use a filter, click the check box next to the filter to activate it, enter the information, and then click **Filter**. You can click **Reset** at any time to restore the page default view.

This table describes the different filters:

Filter	Description
Name	Name used to identify the aggregated view. Returns partial matches. For example, entering 'utilization' in the Name filter will match all aggregated views with the word 'utilization' in the name. Name filters are not case sensitive.
Date Created	Date range when the aggregated view was created. When this filter is selected, additional fields appear letting you specify the date range.
Owner	The owner of the aggregated view. An owner filter must match the full username, and is case sensitive.

Creating and Importing Aggregated Views

Viewpoint lets you create a new aggregated view or import a saved aggregated view. To enable this functionality, two buttons are available towards the bottom of this page:

- **CREATE AGGREGATED VIEW** – Opens a blank aggregated view. See [7.2.4 Creating an Aggregated View](#).
- **IMPORT** – Opens up a pop-up window that lets you import a saved aggregated view. See [7.2.5 Importing an Aggregated View](#).

7.2.1.B Additional Functions

The **Aggregated Views** page also includes a pop-up menu with shortcuts to perform additional aggregated view-related functions. To access the shortcuts, hover your pointer near the aggregated view name to display , and then click this icon to display the pop-up menu:

DASHBOARDS
REPORTS
AGGREGATED VIEWS

Status of processing application: **RUNNING**

Name		Create date	Deployed	Used	Owner
dedication_and_utilization_b...		2026-02-06	Yes	1	moab-admin
dedication_and_utilization_b...		2026-02-06	Yes	1	moab-admin
dedication_and_utilization_b...	N/A	2026-02-06	Yes	1	moab-admin
dedication_and_utilization_b...	N/A	2026-02-06	Yes	1	moab-admin
dedication_and_utilization_b...	N/A	2026-02-06	Yes	1	moab-admin
how_long_did_each_job_wait...	N/A	2026-02-06	Yes	1	moab-admin
how_long_was_the_job_stuc...	N/A	2026-02-06	Yes	1	moab-admin
how_many_unique_users_ra...	N/A	2026-02-06	Yes	1	moab-admin
list_of_the_reservations_tha...	N/A	2026-02-06	Yes	1	moab-admin
overall_availability_and_util...	N/A	2026-02-06	Yes	2	moab-admin

Show
10
entries

←
prev
1
2
3
next
→

CREATE AGGREGATED VIEW
IMPORT

From this pop-up menu, you can:

- Open and view the aggregated view. See [7.2.2 Viewing an Aggregated View](#) for more information.
- Open and view the data pipeline that provides data for the aggregated view. See [7.2.3 Viewing an Aggregated View Pipeline](#) for more information.
- Clone this aggregated view and open the **Edit Aggregated View** page to edit the clone of the aggregated view. See [7.2.6 Editing an Aggregated View](#) for more information.
- Delete this aggregated view.
- Export this aggregated view. Clicking this menu item saves the aggregated view in a file that can be archived or imported into another Viewpoint installation.

7.2.2 Viewing an Aggregated View

This topic contains information on using the **View Data** page to view the data of an aggregated view.

In this topic:

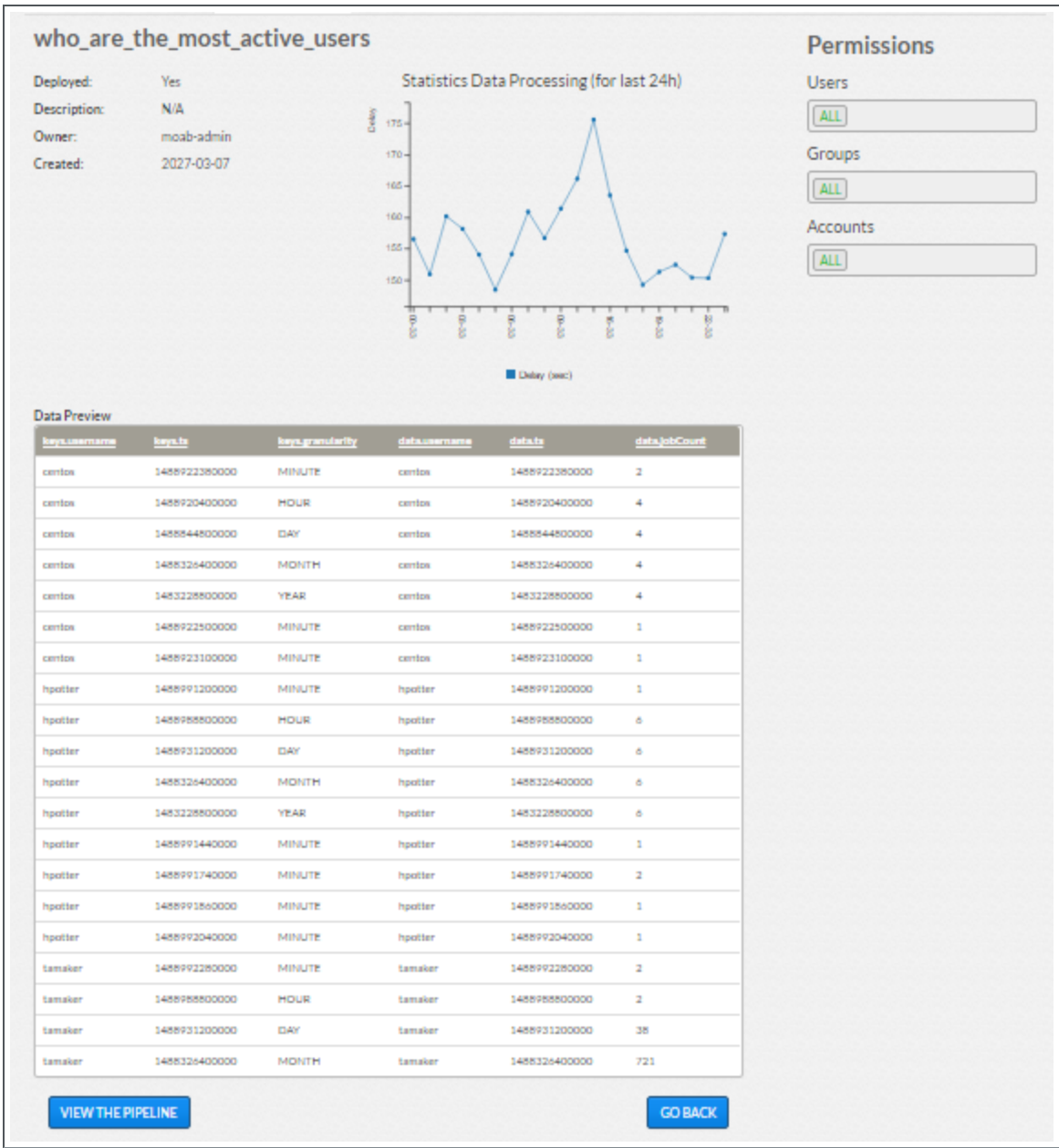
- [7.2.2.A Viewing an Aggregated View](#)
- [7.2.2.B Aggregated View Information](#)
- [7.2.2.C Aggregated View Permissions](#)
- [7.2.2.D Data Preview](#)

7.2.2.A Viewing an Aggregated View

To view the data of an aggregated view, do the following.

1. Access the **Reporting** page (click `REPORTING` in the menu bar).
2. Click the **Aggregated Views** tab.
3. Click on the name of an aggregated view in the list of aggregated views. You can also hover your pointer over the name of the aggregated view until the  pop-up menu

appears and click **View Data**. The **View Data** page for the aggregated view displays:



Each of the areas of the **View Data** page are described below.

7.2.2.B Aggregated View Information

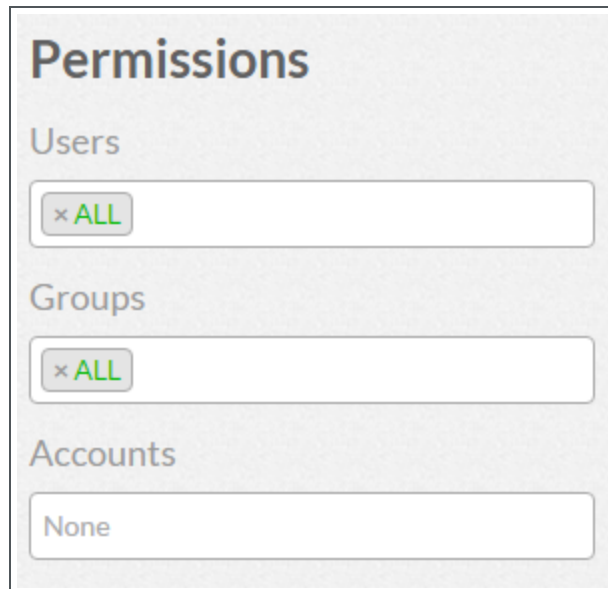
The **View Data** page displays the name of the aggregated view and information about the aggregated view above the data preview.

Field	Description
Deployed	Tells whether the aggregated view has been used in a report
Description	Description of the aggregated view
Owner	Username of the owner of the aggregated view
Created	Date the aggregated view was created

The Statistics Data Processing graph displays statistics related to the aggregated view, if available.

7.2.2.C Aggregated View Permissions

You can restrict who is permitted to use the aggregated view when creating reports. This is done using the **Permissions** area at the top right of the page:



Permissions

Users

x ALL

Groups

x ALL

Accounts

None

Using this area, you can restrict access by:

- **Users.** In the `Users` field, type the IDs of the users. Viewpoint will check if the users you added are valid; that is, has a valid operating system account. If the user is valid, the username turns green; otherwise, it turns red. Use 'ALL' to remove restrictions.
- **Group associations.** In the `Groups` field, type the IDs of the groups. Viewpoint will check if the groups you added are valid; that is, has a valid operating system account.

If the group is valid, the group ID turns green; otherwise, it turns red. Use 'ALL' to remove restrictions.

- Account associations. In the `Accounts` field, select from the available accounts listed in the drop-down. Leave blank to remove restrictions.

7.2.2.D Data Preview

The main pane of the **View Data** page displays a preview of the aggregated data in a tabular format.

i Column titles that are underlined indicate that you can sort (ascending or descending) the column contents. If the data preview is wider than the space available to display it, the data preview will include a scroll bar to scroll right and left to view the data.

There are two buttons at the bottom of the aggregated view data you can use to leave the **View Data** page:

- Click `VIEW THE PIPELINE` to view the data pipeline that selects the data for the aggregated view.
- Click `GO BACK` to return to the **Aggregated Views** page.

7.2.3 Viewing an Aggregated View Pipeline

This topic contains information on using the **View Pipeline** page to view the data pipeline associated with an aggregated view.

To view an aggregated view pipeline, do the following.

1. Access the **Reporting** page (click `REPORTING` in the menu bar).
2. Click the **Aggregated Views** tab.
3. Do one of the following:
 - Click on the name of an aggregated view in the list of aggregated views. When Viewpoint displays the aggregated view, click the `View the Pipeline` button.
 - Hover your pointer over the name of the aggregated view until the  pop-up menu appears and click `View the Pipeline`.

The **View Pipeline** page for the aggregated view displays:

View the Pipeline

Name: dedication_and_utilization_by_most_active_accounts

Description:

Permissions

Users:

Groups:

Accounts:

APPLY CHANGES

Pipeline Designer

Source ☐ Filter ☐ Group and Reduce ☐ Distinct ☐ Fork ☐ Flatten ☐ Join ☐ State ☐ Transform ☐ Union ☐

Properties (read-only mode)

Node Type: Data Source

Comment:

Source Stream:

Description: record of job used by reporting framework

GO BACK

The **View Pipeline** page allows you to browse the nodes comprising the aggregated view in read-only mode. Click on a node in the aggregated view to view the node's properties. Click the [Inspect incoming JSON structure](#) link to view the JSON code on which the node operates. See [7.2.7.C Using the Pipeline Designer](#) for more information about the function of the various node types in aggregated view pipelines.

The **View Pipeline** page provides controls for some limited editing of the aggregated view pipeline. You can edit the description of the aggregated view by clicking in the `Description` field. You can also modify the permissions for the aggregated view. See [7.2.7.B Aggregated View Permissions](#) for more information about permissions.

When you are finished viewing the aggregated view pipeline, click `Go Back` to return to the **Aggregated Views** page.

7.2.4 Creating an Aggregated View

Viewpoint lets you create aggregated data views to view data extracted from one or more data sources.

To create an aggregated view, do the following.

- 1. Access the **Reporting** page (click `REPORTING` in the menu bar).
- 2. Click the **Aggregated Views** tab.
- 3. Click `CREATE AGGREGATED VIEW`. The **Create Aggregated View** page displays:

DASHBOARDSREPORTSAGGREGATED VIEWS

Create Aggregated View

Name

Name

Description

Description

Permissions

Users

×ALL

Groups

×ALL

Accounts

×ALL

Pipeline Designer

Source

Filter

Group and Reduce

Distinct

Fork

Flatten

Join

State

Transform

Union

Select a pipeline item to edit the properties

SAVE AND CLOSE

4. Fill in the name and description for the aggregated view in the Name and Description fields.
5. Design your aggregated view using the controls on the **Create Aggregated View** page. See [7.2.7 Designing an Aggregated View](#) for more information.
6. Click **SAVE AND CLOSE** to save the aggregated view. To exit without saving your data click a link to a different tab or page and confirm that you want to leave the **Create Aggregated View** page.

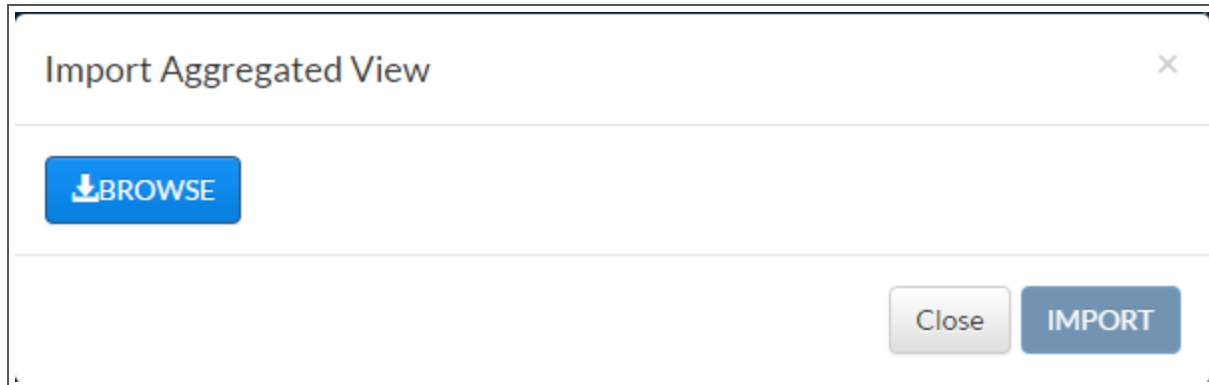
7.2.5 Importing an Aggregated View

This topic provides information and instructions on importing aggregated views.

Viewpoint lets you import aggregated views that were previously saved. You can import a single or multiple aggregated views at the same time.

To import an aggregated view, do the following.

1. Access the **Reporting** page (click **REPORTING** in the menu bar).
2. Click the **Aggregated Views** tab.
3. Click **IMPORT**. The **Import Aggregated View** window appears:



4. Click **BROWSE** and navigate to where the aggregated view file is saved. You can select multiple files by pressing *Ctrl* and then clicking on each file.
5. Once you have chosen which files to include, click **Open**.
6. When the file appears in the Import window, click **IMPORT**. The imported aggregated view(s) appears in the list of available aggregated views and can be edited as needed.

7.2.6 Editing an Aggregated View

Although you cannot edit an aggregated view, Viewpoint lets you edit a copy of an existing aggregated view.

To copy and edit an aggregated view, do the following.

1. Access the **Reporting** page (click `REPORTING` in the menu bar).
2. Click the **Aggregated Views** tab.
3. Hover your pointer next to the name of an aggregated view. When the  pop-up menu appears, click `Clone` and `Edit`.
4. Design your aggregated view using the controls on the **Create Aggregated View** page. See [7.2.7 Designing an Aggregated View](#) for more information.
5. Click `SAVE AND CLOSE` to save the aggregated view. To exit without saving your data, click a link to a different tab or page and confirm that you want to leave the **Create Aggregated View** page.

7.2.7 Designing an Aggregated View

Viewpoint enables you to create new aggregated views and edit the provided aggregated views or aggregated views you have created. This topic identifies how aggregated view components are organized and the resources available when designing an aggregated view.

In this topic:

[7.2.7.A Aggregated View Information](#)

[7.2.7.B Aggregated View Permissions](#)

[7.2.7.C Using the Pipeline Designer](#)

7.2.7.A Aggregated View Information

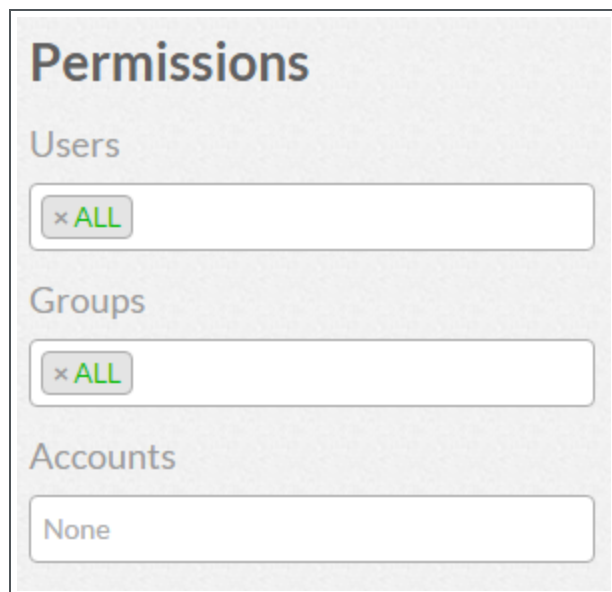
There are two fields at the top of the **Create** and **Edit Aggregated View** pages where you can enter identifying information about the aggregated view you are designing:

Name – The name of the aggregated view. This is a plain text field, which can contain uppercase or lowercase letters, numbers, spaces, or special characters.

Description – A description of the aggregated view. May also be used to provide instructions to report designers on how to use the aggregated view to create reports.

7.2.7.B Aggregated View Permissions

You can restrict who has access to your aggregated view. This is done using the **Permissions** area at the top right of the page:



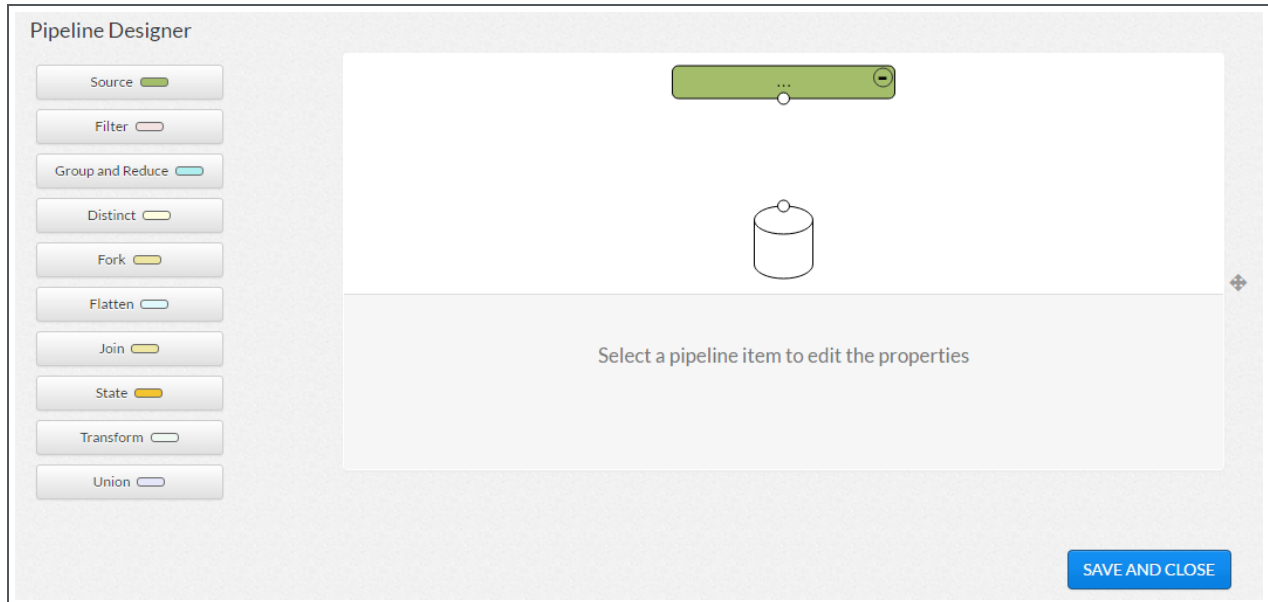
The screenshot shows a 'Permissions' panel with three sections: 'Users', 'Groups', and 'Accounts'. Each section has a text input field. The 'Users' and 'Groups' fields contain 'x ALL' in green text, indicating all users and groups are permitted. The 'Accounts' field contains 'None', indicating no accounts are permitted. Each field has a small 'x' icon to the left of the text.

Using this area, you can restrict access by:

- **Users.** In the `Users` field, type the IDs of the users. Viewpoint will check if the users you added are valid; that is, has a valid operating system account. If the user is valid, the username turns green; otherwise, it turns red. Use 'ALL' to remove restrictions.
- **Group associations.** In the `Groups` field, type the IDs of the groups. Viewpoint will check if the groups you added are valid; that is, has a valid operating system account. If the group is valid, the group ID turns green; otherwise, it turns red. Use 'ALL' to remove restrictions.
- **Account associations.** In the `Accounts` field, select from the available accounts listed in the drop-down. Leave blank to remove restrictions.

7.2.7.C Using the Pipeline Designer

When you create a new aggregated view, the **Pipeline Designer** for the view appears as shown below:



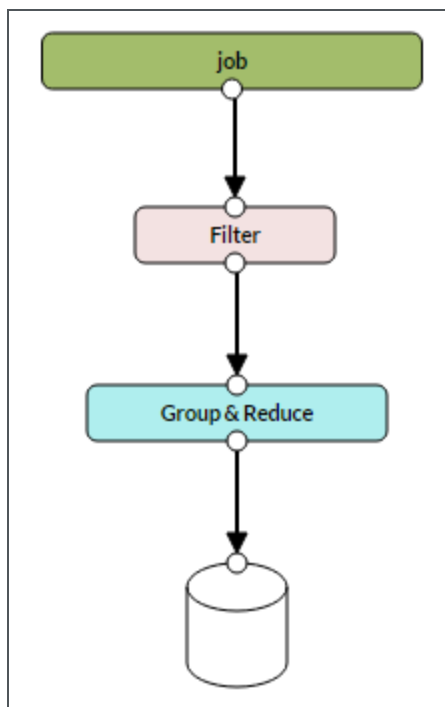
The available node types are represented by icons on the left side of the page (source, filter, etc.). The current pipeline design is represented by icons placed in the design area on the right side of the **Pipeline Designer**. To increase the size of the design area, click and drag the  icon on the lower right corner of the design area.

An aggregated view consists of a connected series of nodes (the 'pipeline') that operate on data from a data source to produce a database layout. The **Pipeline Designer** places nodes representing the data source and database layout for you in a new pipeline. To complete the design of your aggregated view pipeline, place and connect the nodes that operate on the data from the data source to produce your desired database layout.

There are a few basic steps in placing a node in a pipeline:

1. Drag a node from the left side of the page and drop it in the design area.
2. Connect the node to the previous node in the pipeline.
3. Edit the node's properties.
4. Add a comment describing the node (optional).
5. Click `Apply` to apply the properties to the node.

A finished aggregated view pipeline is shown below:



Pipeline Data

Data flowing through the aggregated view pipeline is represented using JavaScript Object Notation (JSON). JSON is a standard format for data interchange, designed to be easily readable.

The data flowing through a pipeline consists of a stream of timestamped messages:

```

{
  "msg": {
    //message data
  },
  "ts": <timestamp of the message>
}

```

The structure and content of the data portion of each message depends on whether the data source is a job, reservation, cluster sample, or job state journal stream.

You can view the structure of the data stream at any point in a pipeline design by clicking on a node, then clicking the `Inspect Incoming JSON structure` link below the design area. For example, in the pipeline design shown above, if you click the `Filter` node, then click `Inspect Incoming JSON structure`, you will see the structure of the stream of job messages passed from the `job` data source to the `Filter` node.

JSON Schema Navigator

Schema of the message from "job" stream

msg

arrayIndex

arrayMasterName

commandFile

commandLineArguments

completionCode

credentials

customName

dates

account

class

group

qos

user

completedDate

lastChargedDate

Path

Type

Description

Close

Pipeline Nodes

The nodes in a pipeline operate on and transform the incoming data stream. A description of the operation of each node type is given in the table below:

Node Type	Description	Property	Property Values	Property Value Description
Source	One of the registered sources of messages.	Source Stream	job	Job data
			reservation	Resource reservation records
			clusterSample	How cluster resources are allocated
Filter	Removes messages from the stream that do not meet specified criteria.	Match Type	Match All (And)	Data must meet all criteria to continue through the pipeline
			Match Any (Or)	Data may meet any criterion to continue through the pipeline
		Field		Message field
		Operator		Operator used to compare Field to Value
		Type		Data type of Value
		Value		Value being compared to Field

Node Type	Description	Property	Property Values	Property Value Description
Group and Reduce	Accumulates the set of messages having the same key value and then reduces the set to a single message by means of an aggregate function. A Group and Reduce node is a single message with the following output JSON: <pre>{ "msg": { "key": <key by which grouping is performed> "value": <result of the aggregate function> }, "ts": <timestamp of the message> }</pre>	Key to Group-by		Key in message record to group records by
		Aggregation	Count, sum, min, max	Aggregation function (count of records in group, sum of selected field, field minimum, field maximum)
		Field Type to Aggregate	Field value, Field value to integer, field value to double	Use field value or convert to integer or double
		Field to Aggregate		Name of message field to aggregate using the aggregation function
Distinct	Removes duplicate messages within a given time window.	Key field		Field to remove duplicate values
		Window		Time window (seconds)
Fork	Splits the input stream into arbitrary number of outgoing streams. Every message from the incoming stream will	None		

Node Type	Description	Property	Property Values	Property Value Description
	appear in every forked output stream.			
Flatten	Unwraps a collection within a single message into the stream of messages. <pre>//JSON before flattening where key="msg.arr", type=integer, value=1 { "msg": { "arr": ["one", "two"] }, "ts": 123 } //JSON after flattening { "msg": { "key": "one", "value": 1 }, "ts": 123 }, { "msg": { "key": "two", "value": 1 }, "ts": 123 }</pre>	Key Field		An array or key-value object (map) to be unwrapped
		Value Type	Boolean, double, integer, string, field value, field value to integer, field value to double	Data type to be associated with each extracted collection item
		Value Expression		Value to be associated with the extracted collection item
Join	Takes two streams as the input, accumulates them in a time window, combines the messages from different streams together and sends the joined messages into the output stream.	Window		Time window in which to accumulate messages (seconds)
		Join Type	One to one	Takes the whole structure of a message from left stream, adds a new field, places a matching

Node Type	Description	Property	Property Values	Property Value Description
				messages from the right stream under that field
		One to many	Takes the whole structure of a message from left stream, adds a new field, places a list of all matching messages from the right stream under that field.	One to many
		Left Key		Field from the left stream used for matching messages from right stream
		Right Key		Field from the right stream used for matching messages from the left stream
State	Perform calculations based on indirect connections between different messages in the single stream.	Key Field		Field by which the state identifier can be extracted

Node Type	Description	Property	Property Values	Property Value Description
		Timeout		Timeout of the state lifetime (seconds). If no new messages appear that relate to the given key before timeout, the state for the given key is removed automatically.
		Source Field		
		Target Field Name		
Transform	Defines a single structural change in the incoming JSON. Examples: add a JSON field with a constant value, referencing a value from another field, or the result of a DateToTimestamp or string/array length function.	Target Field		The field to be written to. If new, the new field is added to the JSON. If an existing field, the field is rewritten. May be null if New Value Kind is function, in which case the function result is saved in the origin field.

Node Type	Description	Property	Property Values	Property Value Description
		Field Description		Description of the target field
		New Value Kind	Constant	Boolean, double, integer, or string value
Union	Combines two input streams to form a single output stream. All messages from the input streams appear in the output stream unchanged and ordered by timestamp.	None		
DB Layout	Defines the layout of the destination data stream that will be available to reports based on the aggregated view.	Persistence Granularity	Minute, Hour, Day, Month, Year	Data granularities to be included in the destination data stream
		Column Map		Maps fields in the incoming JSON structure to columns in the destination data stream

Saving an Aggregated View Design

When you have finished designing your aggregated view, click **SAVE AND CLOSE** to save the aggregated view and close the page, *or* click **SAVE AND RUN** to save and view the aggregated view.

7.2.8 Provided Aggregated Views

Viewpoint comes configured with several aggregated views that you can copy, customize for your environment, and use as the basis for reports you create. The provided aggregated views include:

Name	Description
account_share_of_jobs	The share of completed jobs associated with an account.
class_completed_job_activity	Completed jobs categorized by class (e.g., batch, interactive).
class_share_of_jobs	The share of completed jobs associated with a class.
dedication_and_utilization_by_most_active_accounts	Processor time dedicated and utilized, by account.
dedication_and_utilization_by_most_active_classes	Processor time dedicated and utilized, by class.
dedication_and_utilization_by_most_active_groups	Processor time dedicated and utilized, by group.
dedication_and_utilization_by_most_active_qoses	Processor time dedicated and utilized, by QoS.
dedication_and_utilization_by_most_active_users	Processor time dedicated and utilized, by user.
feature_completed_job_activity	Completed jobs, categorized by required feature.
generic_resource_completed_job_activity	Completed jobs, categorized by generic resource.
how_long_did_each_job_wait_to_start	Wait time for each job.
how_many_unique_users_ran_a_job	Number of jobs submitted by each user.
list_of_the_reservations_that_were_in_effect_during_some_time_period	Reservations in effect during a time period, with reservation properties.

Name	Description
overall_availability_and_utilization	System processor time available and utilized.
partition_completed_job_activity	Completed jobs categorized by partition.
qos_completed_job_activity	Completed jobs categorized by QoS.
qos_share_of_jobs	The share of completed jobs associated with a QoS.
support_node_state_outage_report	Node state (e.g., up, down, running, drained, idle) for a time period.
wait_time_by_individual_account	Wait time for each account's jobs.
wait_time_by_individual_class	Wait time for jobs in each job class.
wait_time_by_individual_group	Wait time for each group's jobs.
wait_time_by_individual_qos	Wait time for jobs in each QoS.
wait_time_by_individual_user	Wait time for each user's jobs.
what_percentage_of_jobs_ran_on_different_intervals	Percentage of jobs with wait time in each time interval (<1 min, 1-30 min, 30-60 min, 1-12 hours, 12-24 hours, >24 hours).
who_are_the_most_active_users	Job count by user.

7.3 Reports Page

The **Reports** page lets you manage, create, and view reports that summarize job and workload data.

To access this page, click `REPORTING` in the menu bar. The **Reports** tab on the **Reports** page opens by default.

This topic provides an example of the **Reports** page and describes its layout and available information.

In this section:

- 7.3.1 Reports Page Example
- 7.3.2 Viewing Reports
- 7.3.3 Report Types
- 7.3.4 Creating a Report
- 7.3.5 Importing a Report
- 7.3.6 Editing a Report
- 7.3.7 Designing a Report
- 7.3.8 Example Reports
- 7.3.9 Exporting Reports
- 7.3.10 Provided Reports

7.3.1 Reports Page Example

This is an example of the **Reports** page:

HOMEWORKLOADREPORTINGTEMPLATESNODESFILE MANAGERSESSIONSCONFIGURATION

DASHBOARDSREPORTSAGGREGATED VIEWS

Name	Create Date	Used	Owner
Account job count	2027-07-10	1	moab-admin
Average queue time per QoS	2027-07-10	1	moab-admin
Average queue time per account	2027-07-10	1	moab-admin
Average queue time per class	2027-07-10	1	moab-admin
Average queue time per group	2027-07-10	1	moab-admin
Average queue time per user	2027-07-10	1	moab-admin
Class completed job activity	2027-07-10	1	moab-admin
Class job count	2027-07-10	1	moab-admin
Dedication and utilization per QoSes	2027-07-10	1	moab-admin
Dedication and utilization per accounts	2027-07-10	1	moab-admin

Show 10 entries

← prev 1 2 3 next →

Filters: 29 results returned

☐ - Name -

☐ Date Created

☐ - Owner -

RESETFILTER

CREATE REPORTIMPORT

In this topic:

- [7.3.1.A Page Details](#)
- [7.3.1.B Additional Functions](#)

7.3.1.A Page Details

This section describes the functional areas of the Reports page:

- [Report List](#)
- [Filters](#)
- [Creating a New Report](#)

Report List

The main pane of the **Reports** page lists the reports and their corresponding information in a column format. Several reports are provided with Viewpoint for you to customize or use as guides when creating your own reports. See [7.3.10 Provided Reports](#) for more information.

 Column titles that are underlined indicate that you can sort (ascending or descending) the column contents. Hover your pointer over a column's contents to view additional information.

Page controls are available at the bottom of the report list to let you customize how many reports appear at a time in the list. These controls also include options for moving between pages of listed reports.

This table describes the different columns and their contents:

Column Heading	Description
Name	Name used to identify the report. You can hover your pointer over the report name to view a description of the report. Click on the report's name to open the report and view additional information about the report.
Create Date	Date the report was created.
Used	Number of times the report has been used in a dashboard.
Owner	Name of the user who created the report.

Filters

Filters let you specify what is displayed in the list of reports on the main pane.

To use a filter, click the check box next to the filter to activate it, enter the information, and then click **Filter**. You can click **Reset** at any time to restore the page default view.

This table describes the different filters:

Filter	Description
Name	Name used to identify the report. Returns partial matches. For example, entering 'utilization' in the Name filter will match all reports with the word 'utilization' in the name. Name filters are not case sensitive.
Date Created	Date range when the report was created. When this filter is selected, additional fields appear letting you specify the date range.
Owner	The owner of the report. An owner filter must match the full username, and is case sensitive.

Creating a New Report

Viewpoint lets you create a new report or import an existing report. To enable this functionality, two buttons are available towards the bottom of this page:

- **CREATE REPORT** – Opens up a blank report. See [7.3.4 Creating a Report](#).
- **IMPORT** – Opens up a pop-up window that lets you import an existing report. See [7.3.5 Importing a Report](#).

7.3.1.B Additional Functions

The **Reports** page also includes a pop-up menu with shortcuts to perform additional report-related functions. To access the shortcuts, hover your pointer near the report name to display  , and then click this icon to display the pop-up menu:

DASHBOARDSREPORTSAGGREGATED VIEWS

Name		Used	Owner
 Account job count		1	moab-admin
 Average queue time per QoS		1	moab-admin
 Average queue time per account	2027-07-10	1	moab-admin
 Average queue time per class	2027-07-10	1	moab-admin
 Average queue time per group	2027-07-10	1	moab-admin
 Average queue time per user	2027-07-10	1	moab-admin
 Class completed job activity	2027-07-10	1	moab-admin
 Class job count	2027-07-10	1	moab-admin
 Dedication and utilization per QoSes	2027-07-10	1	moab-admin
 Dedication and utilization per accounts	2027-07-10	1	moab-admin

Show10▼entries

←

prev123next→

CREATE REPORT

IMPORT

From this pop-up menu, you can:

- Run the report and view the output. See [7.3.2 Viewing Reports](#) for more information.
- Open the **Edit Report** page to modify this report. See [7.3.6 Editing a Report](#) for more information.
- Delete this report.

- Export this report. Saves an image of a report in a PDF or PNG format file that can be printed or incorporated into a document. See [7.3.9 Exporting Reports](#) for more information.

7.3.2 Viewing Reports

This topic provides information on how to view or export an individual report.

To view a report, do the following.

1. Access the **Reporting** page (click `REPORTING` in the menu bar).
2. Click the **Reports** tab.
3. On the **Reports** page, click the report name to view the report. You can also view the report by hovering your pointer near the report name to display , clicking this icon to display the pop-up menu, then clicking `Run`:

DASHBOARDS

REPORTS

AGGREGATED VIEWS

Name		Used	Owner
 Account job count		1	moab-admin
 Average queue time per QoS		1	moab-admin
 Average queue time per account	2027-07-10	1	moab-admin
 Average queue time per class	2027-07-10	1	moab-admin
 Average queue time per group	2027-07-10	1	moab-admin
 Average queue time per user	2027-07-10	1	moab-admin
 Class completed job activity	2027-07-10	1	moab-admin
 Class job count	2027-07-10	1	moab-admin
 Dedication and utilization per QoSes	2027-07-10	1	moab-admin
 Dedication and utilization per accounts	2027-07-10	1	moab-admin

Show

10

entries

←

prev

1

2

3

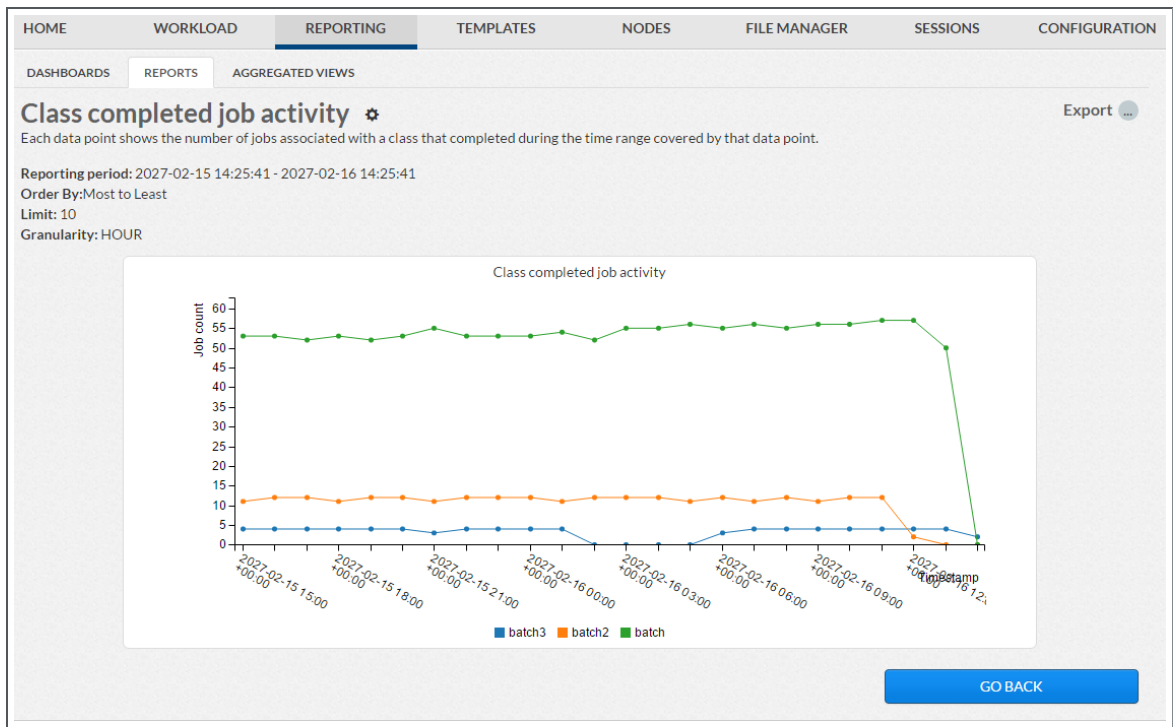
next

→

CREATE REPORT

IMPORT

Viewpoint displays the selected report:



4. If desired, you can change report settings by clicking the ⚙ icon next to the report title:

The screenshot shows a settings dialog box for the report. It contains five settings, each with a label and a dropdown menu: "Auto Refresh" set to "OFF", "Granularity" set to "Hour", "Interval" set to "Day", "Limit" set to "10", and "Order Type" set to "Most to Least". An "APPLY" button is located at the bottom right of the dialog box.

Report settings vary according to the data type displayed in the report, and may include:

- **Auto Refresh** – How frequently the report data is refreshed and the report redisplayed. Select OFF to turn off auto refresh.

- **Granularity** – Time interval for data to be summarized. For example, the `Unique user job count` report displays a line graph where each data point represents the number of unique users whose job was completed during the time interval. Varying Granularity and Interval can facilitate data analysis.
- **Interval** – Time interval to be presented in the report.
- **Limit** – The maximum number of data values to be displayed.
- **Order Type** – The order in which to display the data values (Most to Least or Least to Most).

When you are done viewing the report, click `GO BACK` to close the report and go back to the **Reports** page.

7.3.3 Report Types

Viewpoint comes configured with several reports that you can use or customize for your environment. The available report types are:

- **Bar report** – Colored bars compare the magnitude of several values.
- **Line report** – Lines track the magnitude of one or more values relative to another value (usually time).
- **Pie report** – Sections of a circle represent proportions of each value relative to the total of all values.
- **Table report** – A table displaying the data provided by the aggregated view associated with the table.

Examples of several of these report types are included with Viewpoint. See [7.3.10 Provided Reports](#) for more information.

7.3.4 Creating a Report

Viewpoint lets you create reports that summarize job or workload data.

To create a report, do the following.

1. Access the **Reporting** page (click `REPORTING` in the menu bar).
2. Click the **Reports** tab.
3. Click `CREATE REPORT`. The **Create Report** page displays.

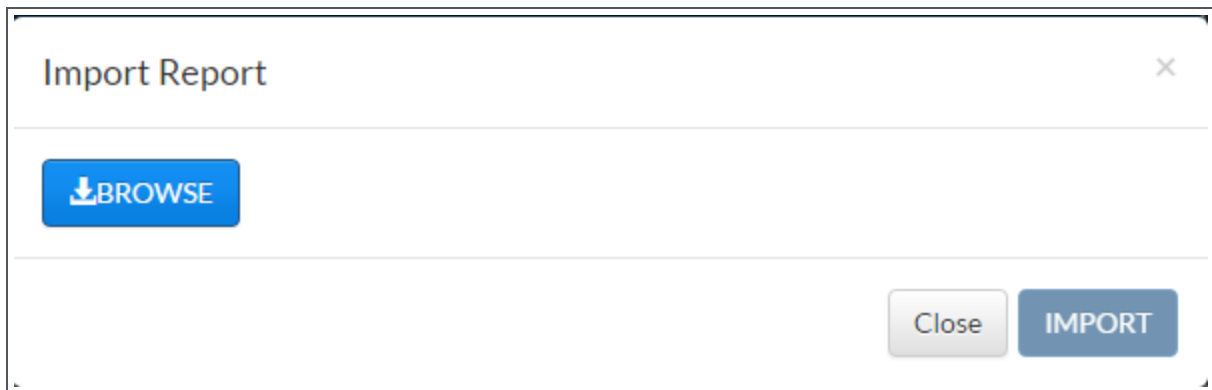
4. Design your report, using the controls on the **Create New Report** page. See [7.3.7 Designing a Report](#) for more information.
5. Click **SAVE REPORT** to save the report and stay on this page, *or* click **SAVE AND CLOSE** to save the report and close this page.

7.3.5 Importing a Report

Viewpoint lets you import reports that were previously saved. You can import a single or multiple reports at the same time.

To import a report, do the following.

1. Access the **Reporting** page (click **REPORTING** in the menu bar).
2. Click the **Reports** tab.
3. Click **IMPORT**. The **Import Report** window appears:



4. Click **BROWSE** and navigate to where the report file is saved. You can select multiple files by pressing *Ctrl* and then clicking on each file.
5. Once you have chosen which files to include, click **Open**.
6. When the file appears in the Import window, click **IMPORT**. The imported report(s) will appear in the list of available reports and can be edited as needed.

7.3.6 Editing a Report

Viewpoint lets you edit the provided reports or reports you have created.

To edit a report, do the following.

1. Access the **Reporting** page (click **REPORTING** in the menu bar).
2. Click the **Reports** tab.

3. Hover your pointer next to the name of a report. When the  pop-up menu appears, click **Edit**.
4. Edit your report design, using the controls on the **Edit Report** page. See [7.3.7 Designing a Report](#) for more information.
5. Click **SAVE AND CLOSE** to save the report and close the page.

7.3.7 Designing a Report

Viewpoint enables you to create new reports and edit the provided reports or reports you have created. This topic identifies how report components are organized and the resources available when designing a report.

In this topic:

[7.3.7.A Report Information](#)

[7.3.7.B Report Permissions](#)

[7.3.7.C Using the Report Designer](#)

7.3.7.A Report Information

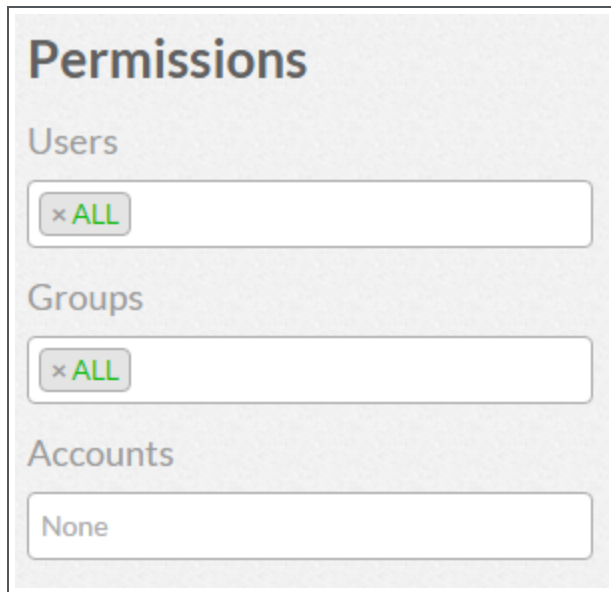
There are two fields at the top of the **Create** and **Edit Report** pages where you can enter identifying information about the report you are designing:

Name – The name of the report. This is a plain text field, which can contain uppercase or lowercase letters, numbers, spaces, or special characters.

Description – A description of the report. This is a formatted field that can contain formatted text, numbered or bulleted lists, links, tables, pictures, etc.

7.3.7.B Report Permissions

You can restrict who has access to your report. This is done using the **Permissions** area at the top right of the page:



The screenshot shows a 'Permissions' panel with three sections:

- Users:** A text input field containing 'x ALL' with a green 'x' icon.
- Groups:** A text input field containing 'x ALL' with a green 'x' icon.
- Accounts:** A text input field containing 'None'.

Using this area, you can restrict access by:

- **Users.** In the `Users` field, type the IDs of the users. Viewpoint will check if the users you added are valid; that is, has a valid operating system account. If the user is valid, the username turns green; otherwise, it turns red. Use 'ALL' to remove restrictions.
- **Group associations.** In the `Groups` field, type the IDs of the groups. Viewpoint will check if the groups you added are valid; that is, has a valid operating system account. If the group is valid, the group ID turns green; otherwise, it turns red. Use 'ALL' to remove restrictions.
- **Account associations.** In the `Accounts` field, select from the available accounts listed in the drop-down. Leave blank to remove restrictions.

7.3.7.C Using the Report Designer

In addition to the report information and permissions described above, a report design consists of three parts:

1. An output query that specifies fields in an aggregated view on which the report will be based
2. Report settings
3. A report layout

To construct the output query, the Report Designer operates in two modes, Basic and Advanced. In Basic mode, you select an aggregated view and specify the data to be included in the report based on the data provided by the selected aggregated view. In Advanced mode, you construct the output query textually. You can toggle between Basic and Advance modes by clicking the `Output Query` button, labeled `Switch to Basic` or `Switch to Advanced`.

Example reports have been provided to illustrate how to create reports in both Basic and Advanced mode.

Basic Report Design

In Basic mode, the output query design portion of the Report Designer appears as shown below:

Output Query

SWITCH TO ADVANCED

Aggregated View Explorer

Select an Aggregated View

VIEW STRUCTURE

Please select an aggregated view first.

To begin constructing an output query, click on the name of an aggregated view in the `Aggregated View Explorer` drop-down menu:

Output Query

SWITCH TO ADVANCED

Aggregated View Explorer

user_completed_job_count

VIEW STRUCTURE

Source Type

Column

Source Column

Select Column

Result Column Name

Result Column Name

ADD

☐ Filter Criteria ("where" clause)

☐ Order By

Select Column

☐ Limit

You can view the structure of the selected aggregated view by clicking the **VIEW STRUCTURE** button. In the example shown above, the `user_completed_job_count` aggregated view has the structure shown below:

JSON Schema Navigator

Schema Structure

data

jobCount

ts

user

keys

Path

data.jobCount

Type

integer

Description

Completed job count

Close

The aggregated view includes usernames with a count of completed jobs (`jobCount`).

In the example shown below, the `user` and `jobCount` fields from the aggregated view are identified as the source columns and the result column names for the report are `User` and `Jobs`, respectively:

Output Query

SWITCH TO ADVANCED

Aggregated View Explorer

user_completed_job_count

VIEW STRUCTURE

Source Type

Column

Source Column

data.user

Result Column Name

User

ADD

Column

data.jobCount

Jobs

Filter Criteria ("where" clause)

Order By

data.user

Limit

In this example, no Filter Criteria ('where' clause) or Limit is specified. The results are ordered by username. Filter Criteria could, for example, limit the resulting dataset to jobCounts greater than 10. Limit could be used to limit the data to the top 10 jobCount values.

Advanced Report Design

In Advanced mode, you construct the output query textually. You can view the structure of an aggregated view by clicking the name of the aggregated view from the Aggregated View Explorer drop-down menu, then clicking the VIEW STRUCTURE button. When referencing an aggregated view in the output query, start typing the name of the aggregated view (e.g., mongo.reporting.how_many_unique_users_ran_a_job) and hit Ctrl + Space for autocomplete assistance.

An example of an output query created in Advanced mode is shown below:



To assist you in constructing the output query, the Advanced mode output query designer provides the predefined variables defined in the table below:

Variable Name	Data Type	Description
\$current_user	String	The username of the person who runs the report. Can be used to apply per-user permissions for the output dataset.
\$current_user_groups	String	Comma-separated list of the groups the report runner belongs to.
\$current_user_accounts	String	Comma-separated list of the accounts the report runner belongs to.
\$start_date	Long Integer	Time stamp of the beginning of the time interval to show in the report.

Variable Name	Data Type	Description
\$end_date	Long Integer	Time stamp of the end of the time interval to show in the report.
\$granularity	String	One of the following values: 'MINUTE', 'HOUR', 'DAY', 'MONTH', 'YEAR'.
\$limit	Integer	How many top rows of the result set should be given to the report. Should be used inside LIMIT clause.
\$order_by	String	Defines the sort order of the query result set, typically by specifying a column in the select list. Should be used inside ORDER BY clause.
\$order_type	String	Specifies that the results should be returned in ascending or descending order. Should be used inside ORDER BY clause.

You must convert data to the appropriate data types when used in expressions or for display. For example, the expression `TO_CHAR(TO_TIMESTAMP(t.data.ts / 1000) , 'YYYY-MM-dd HH:mm z')` as 'Timestamp' divides the `t.data.ts` timestamp value (an integer) by 1000, converts the value to a timestamp, then converts the timestamp to a string formatted according to the 'YYYY-MM-dd HH:mm z' format string for display in the report.

The basic data type conversion functions are shown in the table below:

Function	Description	Example
CAST (<code><expression></code> AS <code><data type></code>)	Convert a value from one type to another.	<code>CAST(b.'Timestamp' AS BIGINT)</code>
TO_CHAR (<code>expression</code>, '<code>format</code>')	<code>expression</code> is an INTEGER, FLOAT, DOUBLE, DATE, TIME, or TIMESTAMP expression. ' <code>format</code> ' is a format specifier enclosed in single quotation marks that sets a pattern for the output formatting.	<code>TO_CHAR(t.data.`value` / t.data.`count`, '#.##')</code>

Function	Description	Example
TO_DATE (expression [, 'format'])	<code>expression</code> is a character string enclosed in single quotation marks. ' <code>format</code> ' is a format specifier enclosed in single quotation marks that sets a pattern for the output formatting.	<code>TO_DATE('2024-07-20', 'yyyy-MM-dd')</code>
TO_NUMBER ('string' , 'format')	' <code>string</code> ' is a character string enclosed in single quotation marks. ' <code>format</code> ' is one or more Java DecimalFormat class specifiers enclosed in single quotation marks that set a pattern for the output formatting.	<code>TO_NUMBER(t.data.configuredProcessors, '#')</code>
TO_TIMESTAMP (expression [, 'format'])	<code>expression</code> is a character string enclosed in single quotation marks. ' <code>format</code> ' is an optional format specifier enclosed in single quotation marks that sets a pattern for the output formatting.	<code>TO_TIMESTAMP(t.data.ts / 1000)</code>

See [Data Type Conversion](#) for more information about type conversion functions and the associated format specifiers.

In addition to data conversion functions, many SQL functions are available for use in output queries. See [Drill SQL Reference](#) for more information.

Configuring Report Default Settings

You can set default values for several variables that determine how your report is initially displayed. The user can modify the values of these variables to change the data displayed in the report. For example, the `Interval` variable determines the period of time for which data is selected for display in the report. You can set the default value to `Day` to display data from the previous day. The user can change the `Interval` setting to `Week` to view data from the previous week.

Variable	Description	Possible Values
Interval	Time period of data included in the report.	5 minutes 30 minutes Hour Day Week Month Quarter Year Custom range
Granularity	Period of time for which data is aggregated. For example, a report may show the number of jobs submitted in each hour over a period of a month. In this case, the interval is a month; the granularity is an hour.	Minute Hour Day Month Year
Order Type	Sort order of data values.	Least to Most Most to Least
Limit	Number of data values included in the report.	5 10 20 50 100 500

Report Layouts

You can choose between a table layout or chart layout for your report using the `Layout` buttons at the bottom of the Report Designer:



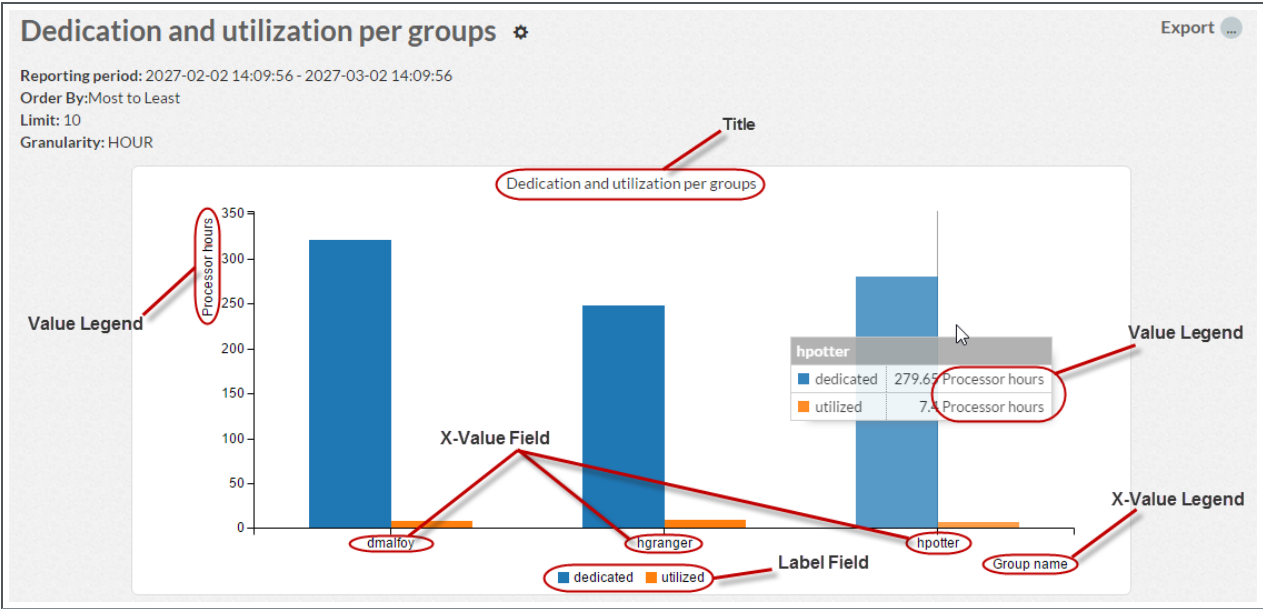
If you select `Table Output`, there are no additional layout settings for your report; Viewpoint formats the table for you. If you select `Chart Output`, the Report Designer displays a drop-down menu where you select your desired chart type. The Report Designer displays additional controls for you to enter additional layout settings, based on

the selected chart type. Additional report layout settings for each of the chart types are shown in the table below:

Layout Setting	Used In	Description
Title	Pie Chart Line Chart Bar Chart	Title displayed at the top of the chart.
Label Field	Pie Chart Line Chart Bar Chart	Result column containing labels for data points (optional).
Value Field	Pie Chart Line Chart Bar Chart	Result column containing data to be used as data points in the chart (for example, points on a line chart or the height of bars in a bar chart).
Value Legend	Pie Chart Line Chart Bar Chart	Label for data values (typically units, such as jobs, hours, processors). Displayed on y-axis in line and bar charts; with data values in pie charts.
Show Percent/Show Value	Pie Chart	Check boxes indicating whether to display data as raw values or percents.
Show Empty Data as Zero	Line Chart	Check box indicating whether to display empty data values as zero.
X-Value Field	Line Chart Bar	Result column containing labels for data values to be plotted.

Layout Setting	Used In	Description
	Chart	
X-Value Legend	Line Chart Bar Chart	Label describing x-value labels. Displayed on x-axis.
X-Value Rotation	Line Chart Bar Chart	Angle to rotate x-axis labels. 0-90 degrees.

A sample chart with the various components labeled is shown below:



When designing a line or bar chart, x-value labels may overlap and become unreadable, as shown below:



The Report Designer provides an X-Value Collision Strategy setting associated with the X-Value Field that specifies how Viewpoint should handle x-value label collisions:

The screenshot shows the 'Variables Default Values' section of the Report Designer. It includes dropdowns for 'Interval' (Day), 'Granularity' (Minute), 'Sort By' (Most to Least), and 'Limit' (20). The 'Layout' section has radio buttons for 'Table Output' and 'Chart Output' (selected). The 'Chart Type' is set to 'Bar Chart'. The 'Title' is 'Most Jobs Completed by User'. The 'Label Field' is 'Label' with a note: 'This field is not required. Leaving it blank will create a simple chart.' The 'Value Field' is 'Count of Jobs'. The 'X-Value Field' is 'Username'. A configuration panel for the 'X-Value Field' is open, showing options for 'Convert to local time' (unchecked), 'Input Format' (YYYY-MM-DD HH:mm Z), 'Output Format' (YYYY-MM-DD HH:mm Z), 'X-Value Legend' (Username), 'X-Value Collision Strategy' (Auto rotate), and 'X-Value Rotation' (0). The 'Adaptive COMPUTING' logo is visible at the bottom.

The available options are:

- Squish – display all labels, even if they overlap.
- Drop if don't fit – display only some of the labels to eliminate overlaps.
- Auto rotate – rotate the labels as needed to prevent overlapping.

You can use the X-Value Rotation field in conjunction with the Squish and Drop if don't fit collision strategies to specify the angle to rotate the x-value labels to avoid collisions. Possible values range from 0 (no rotation) to 90 (vertical). For example, setting the X-Value Collision Strategy to Squish and the X-Value Rotation field to 45 causes all x-value labels to be displayed, rotated 45 degrees, as shown below:



Setting the X-Value Collision Strategy to Drop if don't fit and the X-Value Rotation field to 25 causes the x-value labels to be rotated 25 degrees, with some labels dropped to eliminate overlaps. If you select the Auto rotate collision strategy, Viewpoint rotates the labels to the angle needed to prevent overlapping, so the X-Value Rotation is disabled.

Generating a Report Preview

If you are designing a chart report, a View Data button appears that will generate a table with a preview of data on which the chart will be based.

Whether you are designing a table report or chart report, clicking the Generate Preview button will generate a preview of the table or chart. To minimize the time

required to generate the preview, it is based on the first 10 data records. The final report may appear different from the preview.

Saving a Report Design

When you have finished designing your report, click `SAVE AND CLOSE` to save the report and close the page, *or* click `SAVE AND RUN` to save and view the report.

7.3.8 Example Reports

Versions of two reports created in both Basic and Advanced mode have been provided as examples. This topic describes the example reports to assist you in designing your own reports using the Report Designer in both Basic and Advanced modes. See [7.3.7 Designing a Report](#) for instructions on how to use the Report Designer.

In this topic:

- [7.3.8.A Node Access Policy Wasted Processors Report](#)
- [7.3.8.B Node State/Outage Report](#)

7.3.8.A Node Access Policy Wasted Processors Report

The Node Access Policy Wasted Processors report is a table report that shows the number of idle processors on partially dedicated nodes that cannot be dedicated to or utilized by any job because of a node access policy of `SINGLEJOB` or `SINGLETASK`:

DASHBOARDSREPORTSAGGREGATED VIEWS

Node Access Policy Wasted Processors

Export

The number of idle processors on partially dedicated nodes that cannot be dedicated to or utilized by any job because of a node access policy of `SINGLEJOB` or `SINGLETASK`. This report was created using the advanced (SQL) version of the Output Query builder.

Reporting period: 2027-03-14 01:01:49 -06:00 — 2027-03-14 17:01:49 -06:00

Granularity: MINUTE

Timestamp	Utilized Processors	Dedicated Processors	Configured Processors	Available Processors	Wasted Processors	Reserved Nodes
2027-03-14 16:57 +00:00	0	0	80	80	0	30%
2027-03-14 16:58 +00:00	0	0	80	80	0	30%
2027-03-14 16:59 +00:00	0	9	80	71	27	30%
2027-03-14 17:00 +00:00	0	10	80	70	30	30%
2027-03-14 17:01 +00:00	0	10	80	70	30	30%

Show10entries

←prev

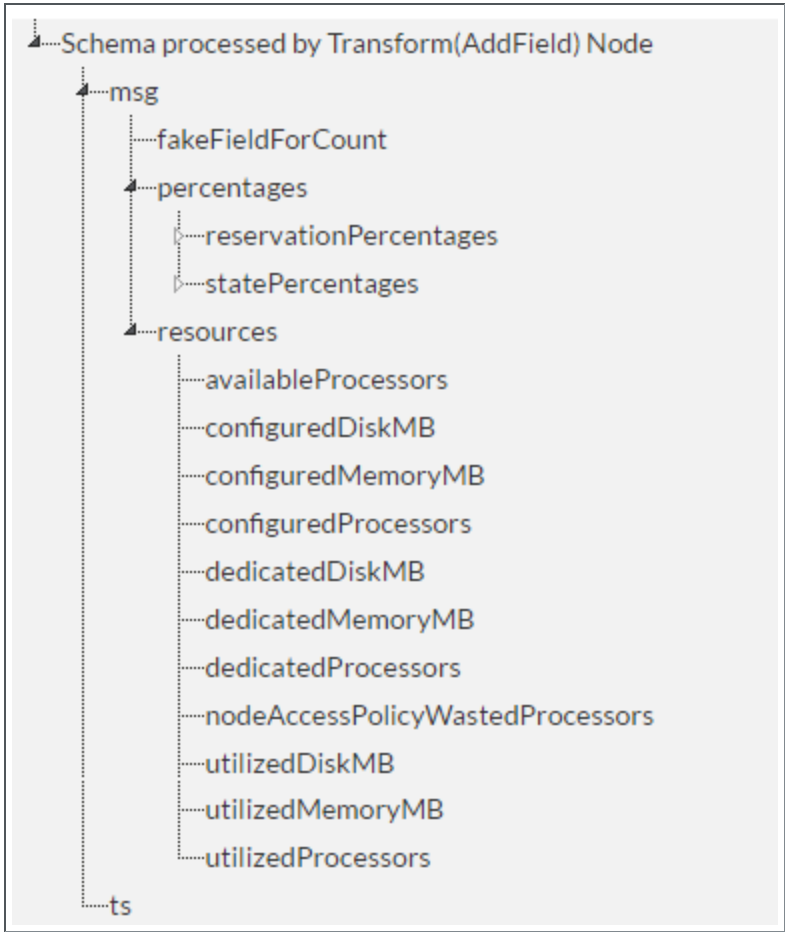
1234567

next→

GO BACK

Basic Mode

The Basic mode version of the Node Access Policy Wasted Processors report is based on the overall_availability_and_utilization aggregated view, which provides a data view based on the clusterSample stream with the schema shown below:



The Node Access Policy Wasted Processors report transforms some of the fields of the aggregated view using the expressions shown below and names the resulting data columns as shown:

Source Type	Source Column	Result Column Name
Expression	TO_CHAR(TO_TIMESTAMP(tbl.data.ts / 1000), 'YYYY-MM-dd HH:mm z')	Timestamp
Expression	TO_CHAR(tbl.data.utilizedProcessors / tbl.data.countMessages, '#')	Utilized Processors
Expression	TO_CHAR(tbl.data.dedicatedProcessors / tbl.data.countMessages, '#')	Dedicated Processors
Expression	TO_CHAR(tbl.data.configuredProcessors / tbl.data.countMessages, '#')	Configured Processors
Expression	TO_CHAR(tbl.data.availableProcessors / tbl.data.countMessages, '#')	Available Processors
Expression	TO_CHAR(tbl.data.wastedProcessors / tbl.data.countMessages, '#')	Wasted Processors
Expression	TO_CHAR(tbl.data.reservedNodes / tbl.data.countMessages, '###"%')	Reserved Nodes

Before displaying the data, the report filters the data, either using the default time interval and granularity values or the values set by the user:

☒ **Filter Criteria ("where" clause)**

☒ Match all (AND) ☐ Match any (OR)

data.ts	⚙	greater or equal	\$start_date
data.ts	⚙	less or equal	\$end_date
keys.granularity	⚙	equal to	'\$granularity'

Advanced Mode

The Advanced mode version of the Node Access Policy Wasted Processors report creates the same table shown above for the Basic mode report.

The Advanced mode version queries the overall_availability_and_utilization aggregated view in the Mongo database using the SQL query shown below. Comparing the SQL query below to the expressions in the Basic mode version of the report above shows how the Basic mode of the Report Designer helps you construct a query without having to write SQL code.

```
SELECT TO_CHAR(TO_TIMESTAMP(t.data.ts / 1000), 'YYYY-MM-dd HH:mm z') as 'Timestamp',
  TO_CHAR(t.data.utilizedProcessors / t.data.countMessages, '#') as 'Utilized
Processors',
  TO_CHAR(t.data.dedicatedProcessors / t.data.countMessages, '#') as 'Dedicated
Processors',
  TO_CHAR(t.data.configuredProcessors / t.data.countMessages, '#') as 'Configured
Processors',
  TO_CHAR(t.data.availableProcessors / t.data.countMessages, '#') as 'Available
Processors',
  TO_CHAR(t.data.wastedProcessors / t.data.countMessages, '#') as 'Wasted Processors',
  TO_CHAR(t.data.reservedNodes / t.data.countMessages, '#.##' || '%' || ')') as 'Reserved
Nodes'
FROM mongo.reporting.overall_availability_and_utilization t
WHERE t.data.ts >= $start_date
  AND t.data.ts <= $end_date
  AND t.keys.granularity = '$granularity'
```

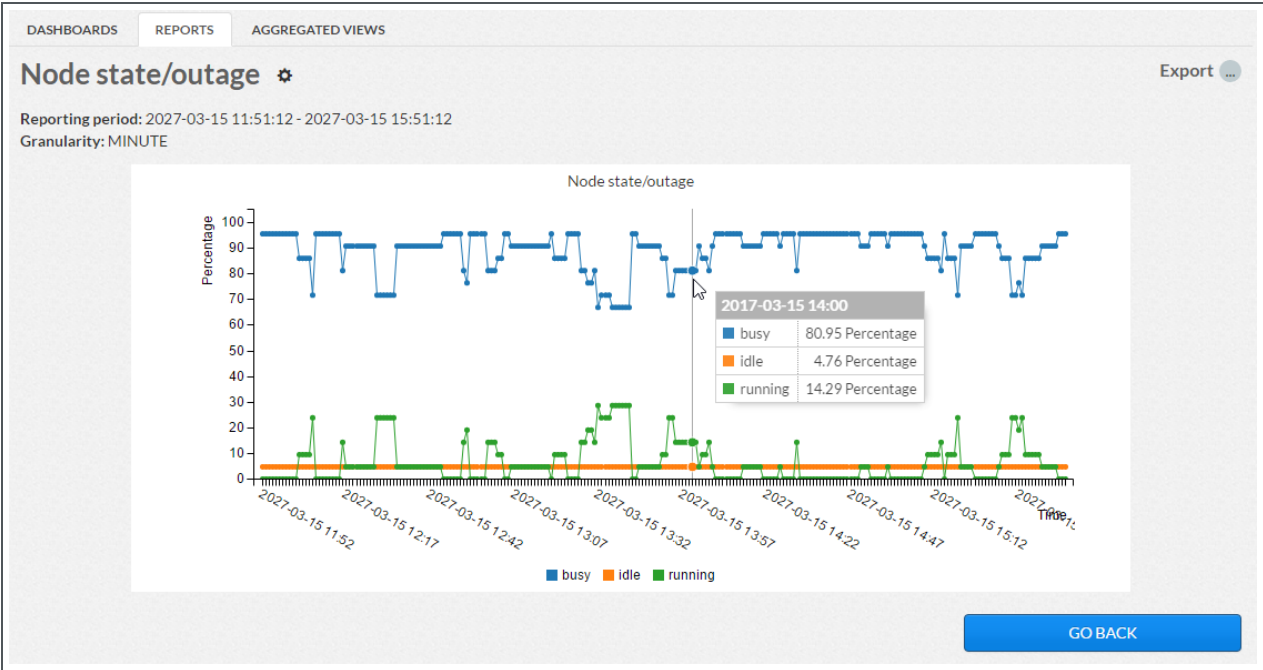
The report defines the default Interval, Granularity, Sort By, and Limit values of the report parameters as shown below:

Variables Default Values

Interval	Day	Granularity	Minute
Sort By	Least to Most	Limit	10

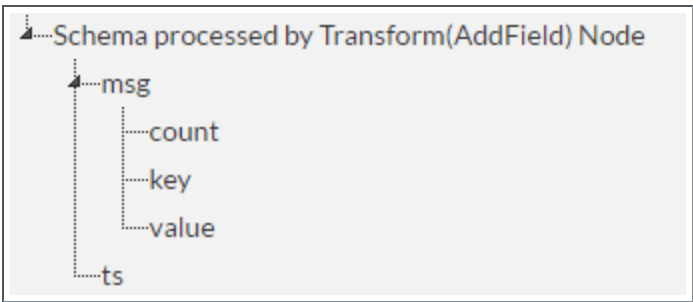
7.3.8.B Node State/Outage Report

The Node State/Outage Report is a line graph report that shows what percent of nodes were in each of the various states (busy, down, idle, reservedNodes, running, etc.) over a time interval:



Basic Mode

The Node State/Outage report is based on the `support_node_state_outage_report` aggregated view, which creates a data view based on the `clusterSample` stream with the schema shown below:



The Node State/Outage report transforms some of the fields of the aggregated view using the expressions shown below and names the resulting data columns as shown:

Source Type	Source Column	Result Column Name
Column	data.state	State
Expression	TO_CHAR(tbl.data.`value` / tbl.data.`count`, '#.##')	Value
Expression	CAST(tbl.data.ts AS BIGINT)	Timestamp

Before displaying the data, the report filters the data, either using the default time interval and granularity values or the values set by the user:

☒ **Filter Criteria ("where" clause)**

☒ Match all (AND) ☐ Match any (OR)

keys.ts

greater or equal

\$start_date

keys.ts

less or equal

\$end_date

keys.granularity

equal to

'\$granularity'

data.value

not equal to

0

☒ **Order By**

keys.ts

The fields shown below format the report for display:

Chart Type

Line Chart

☒ Show Empty Data as Zero

Title

Node state/outage

Label Field

State

Value Field

Value

X-Value Field

Timestamp

Advanced Mode

The Advanced mode version of the Node State/Outage report creates the same graph shown above for the Basic report.

The Advanced mode version queries the `support_node_state_outage_report` aggregated view in the Mongo database using the SQL query shown below. Comparing the SQL query below to the expressions in the Basic mode version of the report above shows how the Basic mode of the Report Designer helps you construct a query without having to write SQL code.

```
SELECT t.data.state AS 'State',
       TO_CHAR(t.data.'value' / t.data.'count', '#.##') AS 'Value',
       CAST(t.data.ts AS BIGINT) AS 'Timestamp'
FROM mongo.reporting.support_node_state_outage_report t
WHERE t.keys.ts >= $start_date
      AND t.keys.ts <= $end_date
      AND t.keys.granularity = '$granularity'
      AND t.'data'.'value' <> 0
ORDER BY t.keys.ts ASC
```

The report defines the default Interval, Granularity, Sort By, and Limit values of the report parameters as shown below:

Variables Default Values

Interval	Day	Granularity	Hour
Sort By	Most to Least	Limit	10

The report uses the same format as the Basic mode report:

Chart Type	Line Chart	☒ Show Empty Data as Zero
Title	Node state/outage	
Label Field	State	⚙
Value Field	Value	⚙
X-Value Field	Timestamp	⚙

7.3.9 Exporting Reports

This topic provides information on how to export an image of an individual report as a PDF or PNG file.

To export a report, do the following.

- 1. Access the **Reporting** page (click REPORTING in the menu bar).
- 2. Click the **Reports** tab.
- 3. On the **Reports** page, hover your pointer near the report name to display , and then click this icon to display the pop-up menu:

DASHBOARDSREPORTSAGGREGATED VIEWS

Name		Used	Owner
 Account job count		1	moab-admin
 Average queue time per QoS		1	moab-admin
 Average queue time per account	2027-07-10	1	moab-admin
 Average queue time per class	2027-07-10	1	moab-admin
 Average queue time per group	2027-07-10	1	moab-admin
 Average queue time per user	2027-07-10	1	moab-admin
 Class completed job activity	2027-07-10	1	moab-admin
 Class job count	2027-07-10	1	moab-admin
 Dedication and utilization per QoSes	2027-07-10	1	moab-admin
 Dedication and utilization per accounts	2027-07-10	1	moab-admin

Show10▼entries

←prev

1

2

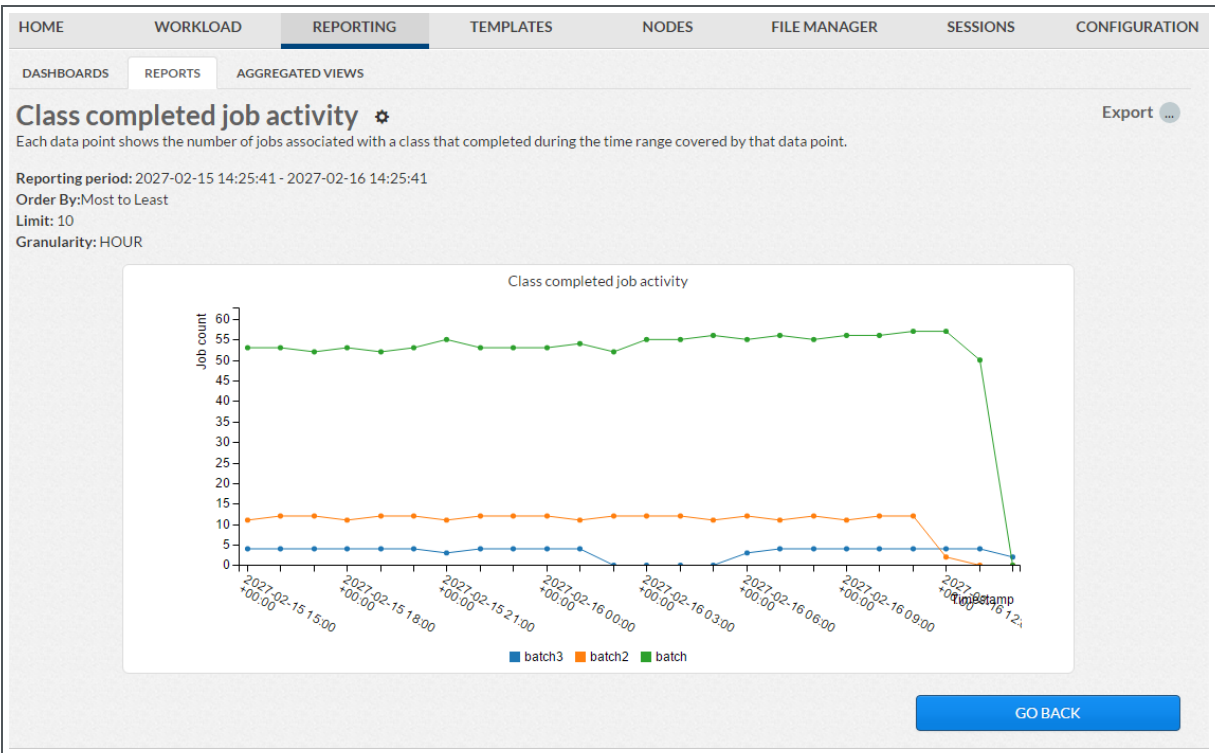
3

next→

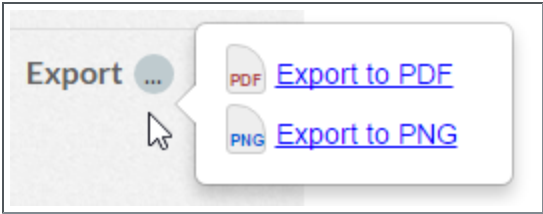
CREATE REPORT

IMPORT

4. Click **Run** to view the selected report:



5. Click the **Export** button and select whether you want to export the report as a PDF or PNG image file:



The image file is downloaded to the download directory configured for your browser. The file name is the name of the report.

7.3.10 Provided Reports

Viewpoint comes configured with several reports that you can copy, customize for your environment, and include in dashboards you design. The provided reports include examples of several of the available report types. See [7.3.3 Report Types](#) for more information. The available reports are:

Report Name	Report Description	Report Type	Default Values				
			Auto Refresh	Granularity	Interval	Limit	Order Type
Account job count	The number of completed jobs per account.	Pie Chart	OFF	Minute	Previous Day	10	Least to Most
Average queue time per QoS	The average number of hours each QoS's jobs waited in the queue before starting.	Bar Chart	OFF	Hour	Previous Day	10	Most to Least
Average queue time per account	The average number of hours each account's jobs waited in the queue before starting.	Bar Chart	OFF	Hour	Previous Day	10	Most to Least
Average queue time per class	The average number of hours each class's jobs waited in the queue before starting.	Bar Chart	OFF	Hour	Previous Day	10	Most to Least
Average queue time per group	The average number of hours each group's jobs waited in the queue before starting.	Bar Chart	OFF	Hour	Previous Day	10	Most to Least
Average queue time per user	The average number of hours each user's jobs waited in the queue before starting.	Bar Chart	OFF	Hour	Previous Day	10	Most to Least
Class completed job activity	Each data point shows the number of jobs associated with a class that completed during the time range covered by that data point.	Line Chart	OFF	Hour	Previous Day	10	Most to Least
Class job count	The number of completed jobs per	Pie Chart	OFF	Minute	Previous	10	Least to

Report Name	Report Description	Report Type	Default Values				
			Auto Refresh	Granularity	Interval	Limit	Order Type
	class.				Day		Most
Dedication and utilization per QoSes	Average number of processor hours dedicated and utilized for each QoS's jobs.	Bar Chart	OFF	Hour	Previous Day	10	Most to Least
Dedication and utilization per accounts	Average number of processor hours dedicated and utilized for each account's jobs.	Bar Chart	OFF	Hour	Previous Day	10	Most to Least
Dedication and utilization per classes	Average number of processor hours dedicated and utilized for each class's jobs.	Bar Chart	OFF	Hour	Previous Day	10	Most to Least
Dedication and utilization per groups	Average number of processor hours dedicated and utilized for each group's jobs.	Bar Chart	OFF	Hour	Previous Day	10	Most to Least
Dedication and utilization per users	Average number of processor hours dedicated and utilized for each user's jobs.	Bar Chart	OFF	Hour	Previous Day	10	Most to Least
Feature completed job activity	Each data point shows the number of jobs that completed during the time range covered by that data point that required a specific	Line Chart	OFF	Hour	Previous Day	10	Most to Least

Report Name	Report Description	Report Type	Default Values				
			Auto Refresh	Granularity	Interval	Limit	Order Type
	feature.						
Generic resource completed job activity	Each data point shows the number of dedicated generic resources during the time range.	Line Chart	OFF	Hour	Previous Day	10	Most to Least
Job queue time per class	What percentage of the jobs associated with a class/queue had a queue time within a specified interval.	Bar Chart	OFF	Hour	Previous Day		
Most Jobs Completed by User	Shows the most active users based on the number of jobs from each user that completed over the reporting period.	Bar Chart	OFF	Hour	Previous Day	10	Most to Least
Node Access Policy Wasted Processors	The number of idle processors on partially dedicated nodes that cannot be dedicated to or utilized by any job because of a node access policy of SINGLEJOB or SINGLETASK. (Created using the advanced report builder.)	Table	OFF	Minute	Previous Day		
Node Access Policy Wasted Processors (Basic Mode)	The number of idle processors on partially dedicated nodes that cannot be dedicated to or utilized by any job because of a node	Table	OFF	Minute	Previous Day		

Report Name	Report Description	Report Type	Default Values				
			Auto Refresh	Granularity	Interval	Limit	Order Type
	access policy of SINGLEJOB or SINGLETASK. (Created using the basic report builder.)						
Node state/out age	The percentage of nodes were running/idle/reserved over the reporting period. (Created using the advanced report builder.)	Line Chart	OFF	Hour	Previous Day		
Node state/out age (Basic Mode)	The percentage of nodes were running/idle/reserved over the reporting period. (Created using the basic report builder.)	Line Chart	OFF	Hour	Previous Day		
Partition completed job activity	Each data point shows the number of jobs that completed during a time window that required a specific partition.	Line Chart	OFF	Hour	Previous Day	10	Most to Least
QoS completed job activity	Each data point shows the number of jobs associated with a QoS that completed during the time range covered by that data point.	Line Chart	OFF	Hour	Previous Day	10	Most to Least
QoS job count	The number of completed jobs per QoS.	Pie Chart	OFF	Minute	Previous Day	10	Least to Most

Report Name	Report Description	Report Type	Default Values				
			Auto Refresh	Granularity	Interval	Limit	Order Type
Queue time per job	The number of hours each job waited in the queue before starting.	Bar Chart	OFF		Previous Day	10	Most to Least
Reservations by time	List of the reservations that were in effect during some time period.	Table	OFF		Previous Day		
System CPU and memory	The percentage of CPU and memory dedication and utilization over the reporting interval.	Line Chart	OFF	Hour	Previous Day		
System CPU availability and utilization	The number of CPUs utilized/dedicated/configured over the reporting interval.	Line Chart	OFF	Hour	Previous Day		
Unique user job count	Each data point shows how many unique users had a job complete since the last data point.	Line Chart	OFF	Minute	Previous Day		

7.4 Dashboards Page

The **Dashboards** page lets you manage, create, and view dashboards that combine reports that summarize job and workload data.

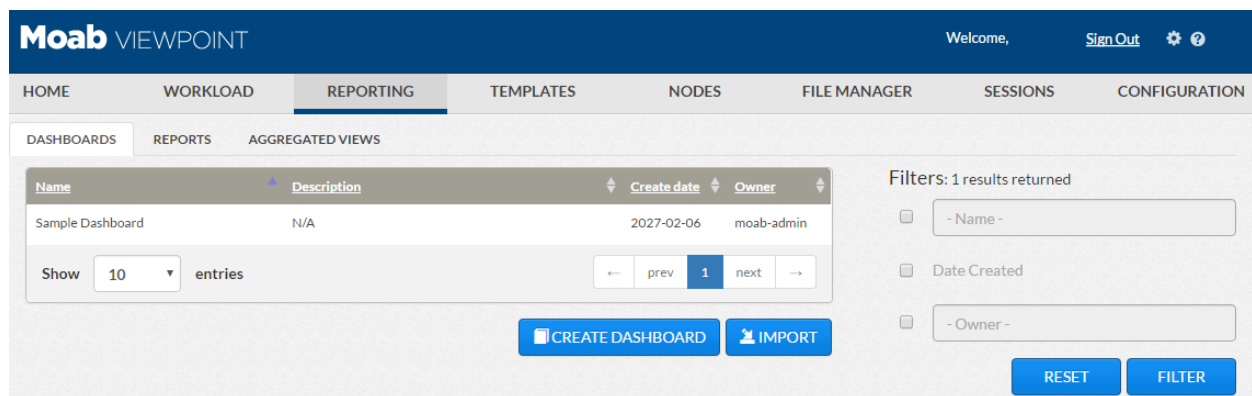
To access this page, click **Reporting** in the menu bar, then click the **Dashboards** tab.

In this section:

- [7.4.1 Dashboards Page Example](#)
- [7.4.2 Viewing a Dashboard](#)
- [7.4.3 Creating a Dashboard](#)
- [7.4.4 Importing a Dashboard](#)
- [7.4.5 Editing a Dashboard](#)
- [7.4.6 Designing a Dashboard](#)
- [7.4.7 Provided Dashboards](#)

7.4.1 Dashboards Page Example

This is an example of the **Dashboards** page:



In this topic:

- [7.4.1.A Page Details](#)
- [7.4.1.B Additional Functions](#)

7.4.1.A Page Details

This section describes the functional areas of the **Dashboards** page:

- [Dashboard List](#)
- [Filters](#)
- [Creating a New Dashboard](#)

Dashboard List

The main pane of the **Dashboards** page lists the dashboards and their corresponding information in a column format.

 Column titles that are underlined indicate that you can sort (ascending or descending) the column contents.

Page controls are available at the bottom of the dashboard list to let you customize how many dashboards appear at a time in the list. These controls also include options for moving between pages of listed dashboards.

This table describes the different columns and their contents:

Column Heading	Description
Name	Name used to identify the dashboard. Click on the dashboard's name to open the dashboard and view additional information about the dashboard.
Description	A description of the dashboard.
Create Date	Date the dashboard was created.
Owner	Name of the user who created the dashboard.

Filters

Filters let you specify what is displayed in the list of dashboards on the main pane.

To use a filter, click the check box next to the filter to activate it, enter the information, and then click **Filter**. You can click **Reset** at any time to restore the page default view.

This table describes the different filters:

Filter	Description
Name	Enter a string to search by the name used to identify the dashboard. Displays all dashboards with the string in the dashboard name.
Date Created	Date range when the dashboard was created. When this filter is selected, additional fields appear letting you specify the date range.
Owner	The owner of the dashboard.

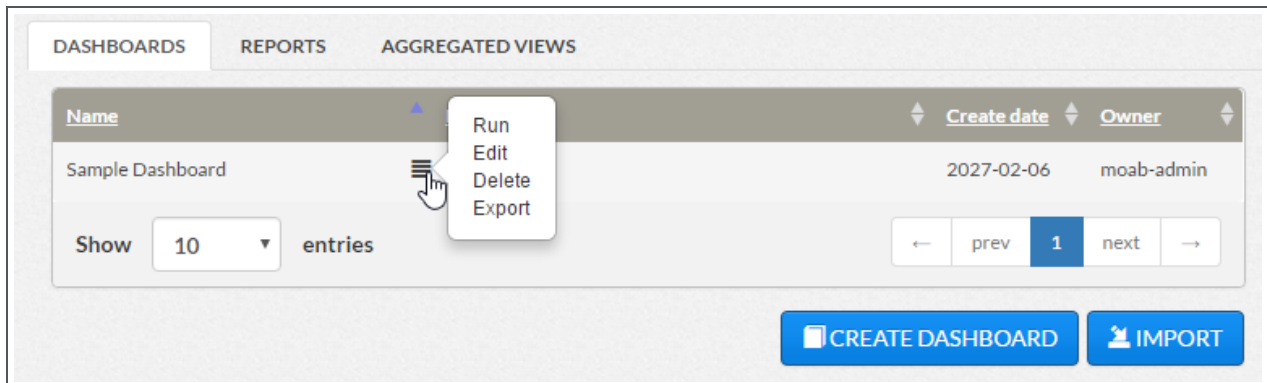
Creating a New Dashboard

Viewpoint lets you create a new dashboard or import an existing dashboard. To enable this functionality, two buttons are available towards the bottom of this page:

- **CREATE DASHBOARD** – Opens up a blank dashboard. See [7.4.3 Creating a Dashboard](#).
- **IMPORT** – Opens up a pop-up window that lets you import an existing dashboard. See [7.4.4 Importing a Dashboard](#).

7.4.1.B Additional Functions

The **Dashboards** page also includes a pop-up menu with shortcuts to perform additional dashboard-related functions. To access the shortcuts, hover your pointer near the dashboard name to display , and then click this icon to display the pop-up menu:



From this pop-up menu, you can:

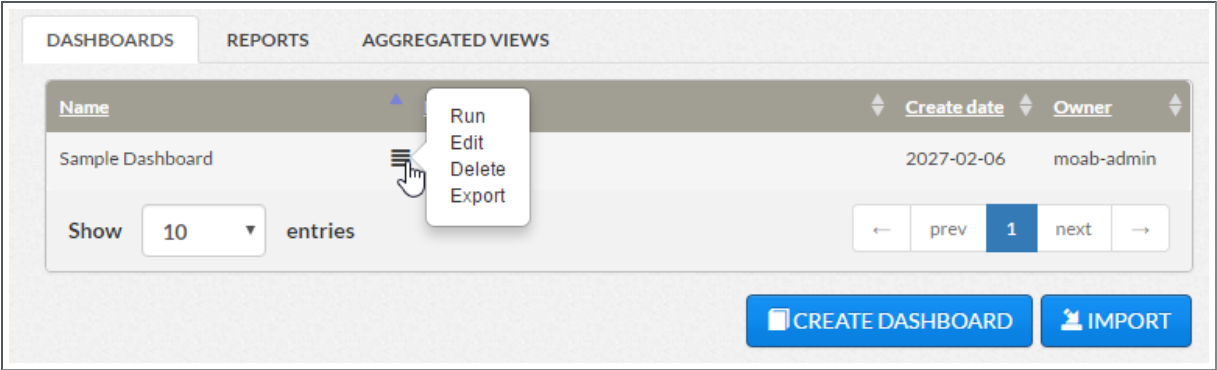
- Open and view the dashboard. See [7.4.2 Viewing a Dashboard](#) for more information.
- Open the **Edit Dashboard** page to modify this dashboard. See [7.4.5 Editing a Dashboard](#) for more information.
- Delete this dashboard.
- Export this dashboard. Saves the dashboard to a file that can be archived or imported into another Viewpoint installation.

7.4.2 Viewing a Dashboard

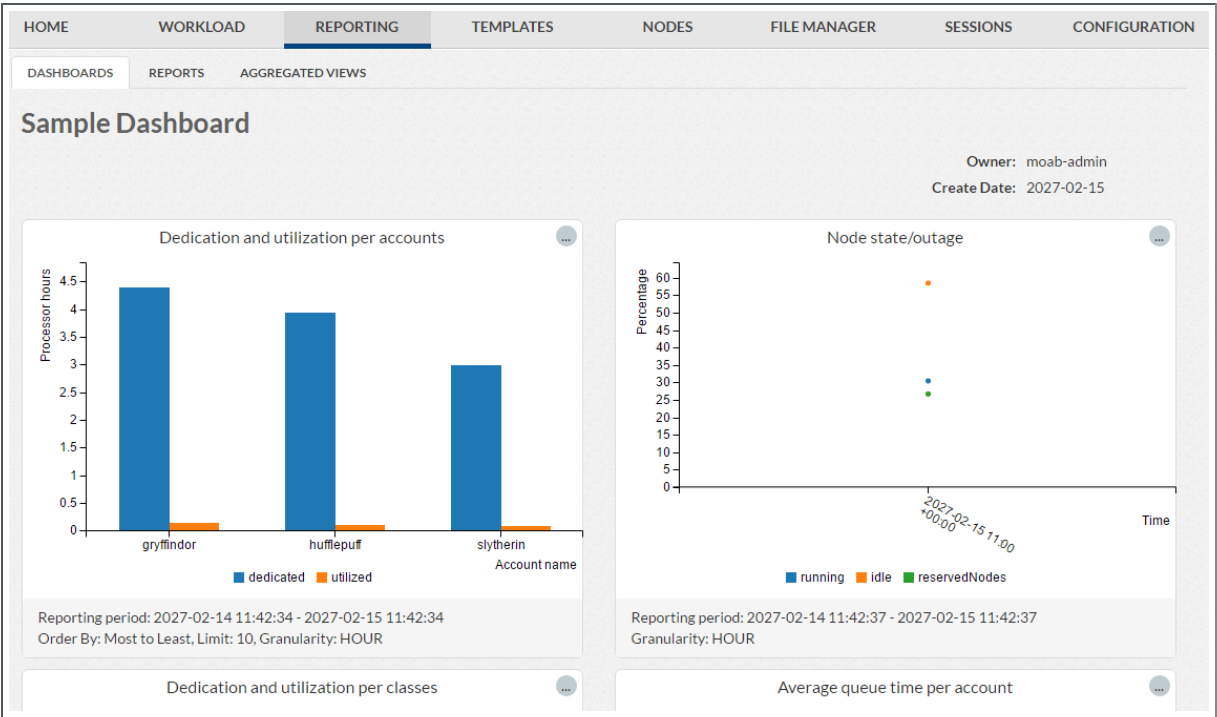
This topic provides information on how to view a dashboard.

To view a dashboard, do the following.

- 1. Access the **Reporting** page (click REPORTING from the menu).
- 2. Click the **Dashboards** tab.
- 3. On the **Dashboards** page, click the name of the dashboard you want to display.
- 4. You can also hover your pointer near the dashboard name and then click this icon  to display the pop-up menu:



- 5. Click RUN to view the selected dashboard:



7.4.3 Creating a Dashboard

Viewpoint lets you create new dashboards that users can use to view multiple reports.

To create a dashboard, do the following.

1. Access the **Reporting** page (click `REPORTING` in the menu bar).
2. Click `DASHBOARDS` to access the **Dashboards** page.
3. Click `CREATE DASHBOARD` to create a new dashboard. The **Create Dashboard** page displays.
4. Fill in the necessary information or make the necessary changes. See [7.4.6 Designing a Dashboard](#) for more information.
5. Click `SAVE AND CLOSE` to save the dashboard and close the page, *or* click `SAVE AND RUN` to save and view the dashboard.

7.4.4 Importing a Dashboard

This topic provides information and instructions on importing dashboards.

Viewpoint lets you import dashboards that have previously been exported. You can import a single dashboard or multiple dashboards at the same time.

To import a dashboard, do the following.

1. Access the **Reporting** page (click `Reporting` in the menu bar).
2. Click the **Dashboards** tab.
3. Click `IMPORT`. The **Import Dashboard** window appears:



4. Click `BROWSE` and navigate to where the dashboard file is saved. You can select multiple files by pressing `Ctrl` and then clicking on each file.
5. Once you have chosen which files to include, click `Open`.
6. When the file appears in the `Import` window, click `IMPORT`. The dashboard appears in the list of dashboards and can be edited as needed.

7.4.5 Editing a Dashboard

Viewpoint lets you edit the provided dashboards or dashboards you have created.

To edit a dashboard, do the following.

1. Access the **Reporting** page (click `REPORTING` from the menu).
2. Click the **Dashboards** tab.
3. Hover your pointer next to the name of a dashboard. Click the  pop-up menu when it appears, then click `Edit`.
4. Fill in the necessary information or make the necessary changes. See [7.4.6 Designing a Dashboard](#) for more information.
5. Click `SAVE AND CLOSE` to save the dashboard and close the page, *or* click `SAVE AND RUN` to save and view the dashboard.

7.4.6 Designing a Dashboard

Viewpoint enables you to create new dashboards and edit the provided dashboards or dashboards you have created. This topic identifies how dashboard components are organized and the resources available when designing a dashboard.

In this topic:

[7.4.6.A Dashboard Information](#)

[7.4.6.B Dashboard Permissions](#)

[7.4.6.C Using the Dashboard Designer](#)

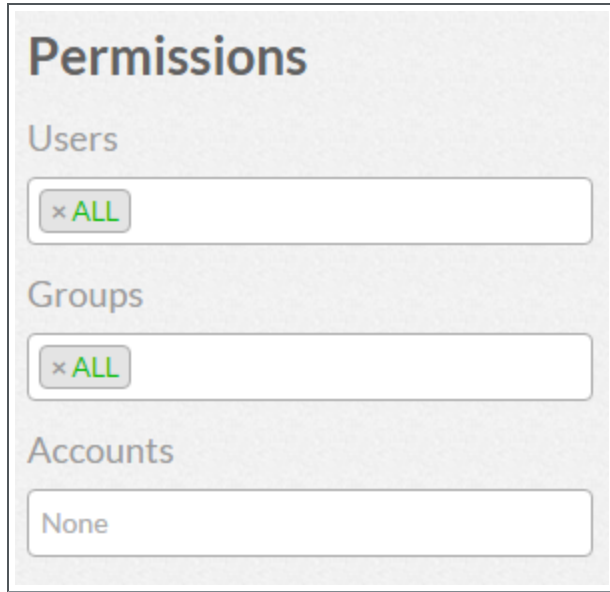
7.4.6.A Dashboard Information

At the top of the **Create** or **Edit Dashboard** pages, there are `Name` and `Description` fields for the dashboard you are designing. The dashboard name and description are displayed in the dashboard list shown on the **Dashboards** page.

Click in the `Name` and `Description` fields to enter a name and description for the dashboard you are designing.

7.4.6.B Dashboard Permissions

You can restrict who has access to your dashboard. This is done using the **Permissions** area at the top right of the page:

A screenshot of a 'Permissions' configuration form. The form has a light gray background and a thin border. It contains three sections: 'Users', 'Groups', and 'Accounts'. Each section has a text input field. The 'Users' and 'Groups' fields contain the text 'x ALL' in green, indicating valid entries. The 'Accounts' field contains the text 'None'.

Permissions

Users

Groups

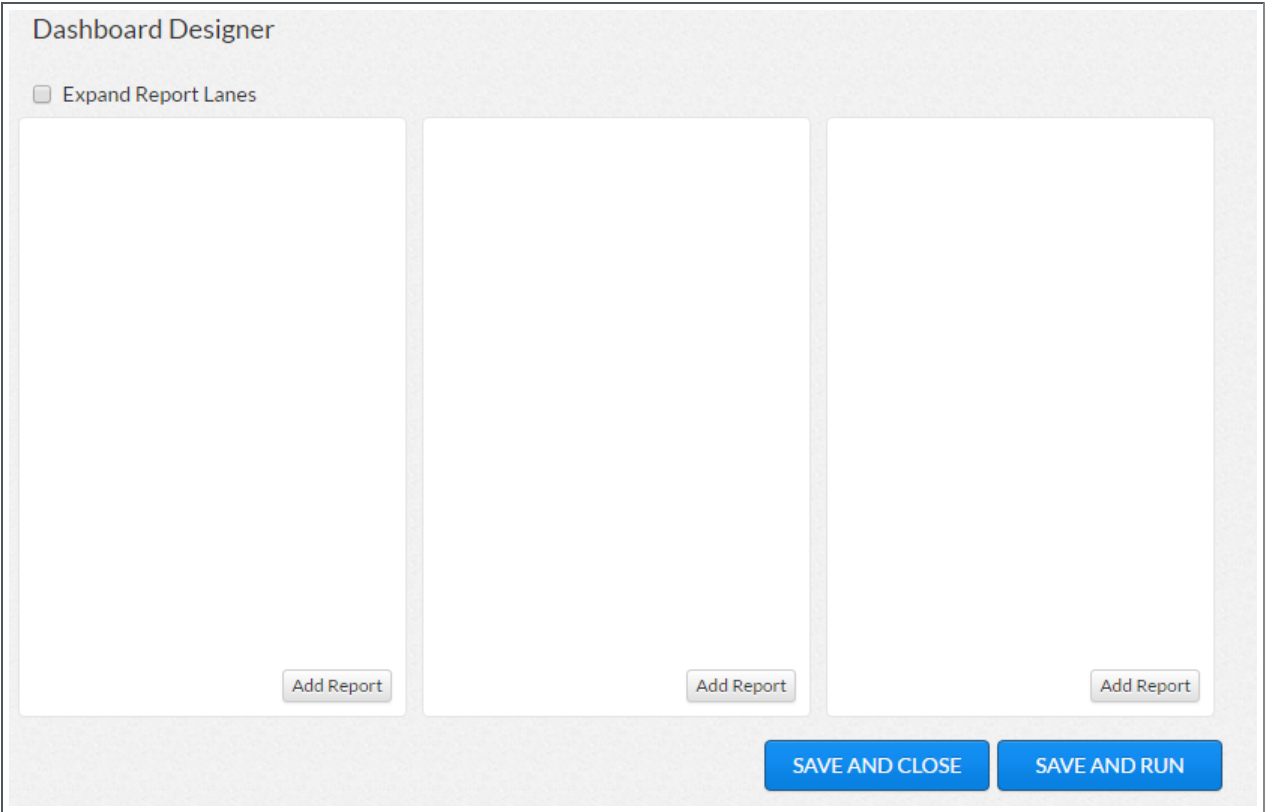
Accounts

Using this area, you can restrict access by:

- **Users.** In the `Users` field, type the IDs of the users. Viewpoint will check if the users you added are valid; that is, has a valid operating system account. If the user is valid, the username turns green; otherwise, it turns red. Use 'ALL' to remove restrictions.
- **Group associations.** In the `Groups` field, type the IDs of the groups. Viewpoint will check if the groups you added are valid; that is, has a valid operating system account. If the group is valid, the group ID turns green; otherwise, it turns red. Use 'ALL' to remove restrictions.
- **Account associations.** In the `Accounts` field, select from the available accounts listed in the drop-down. Leave blank to remove restrictions.

7.4.6.C Using the Dashboard Designer

The main part of the **Create** or **Edit Dashboard** pages is the Dashboard Designer, which you use to add and configure the reports to be displayed on your dashboard. The Dashboard Designer for a newly created dashboard is shown below:

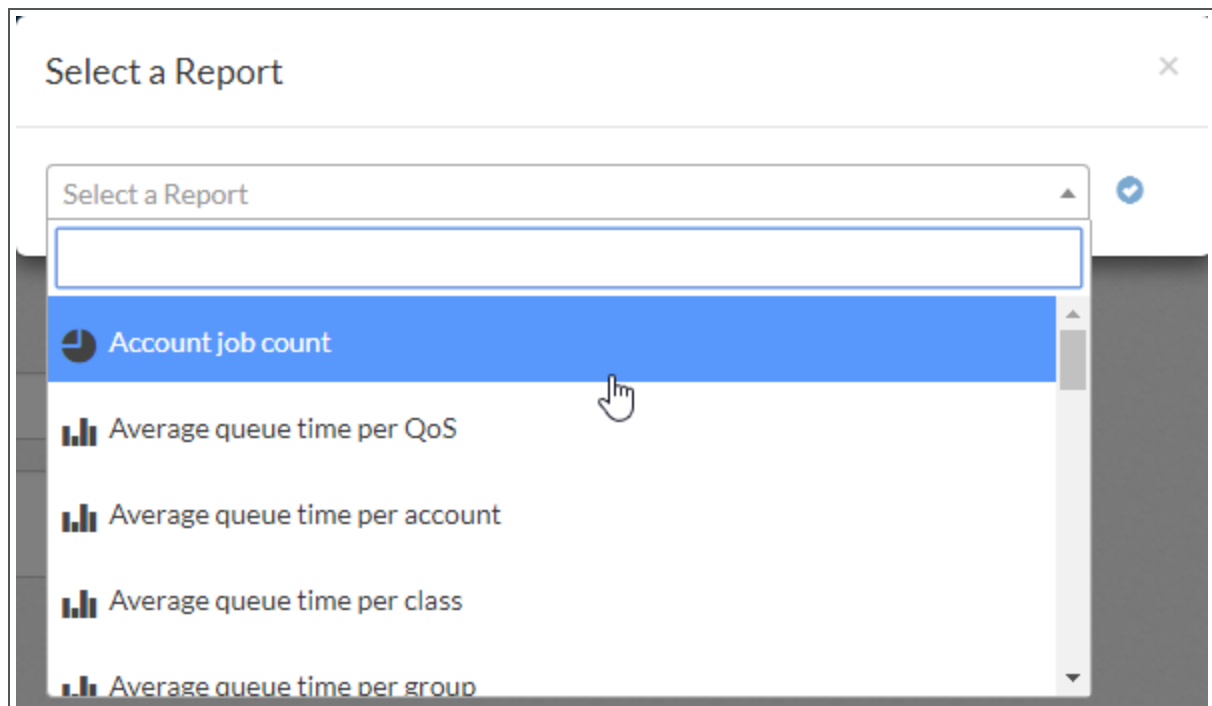


Adding a Report to a Dashboard

A dashboard can have up to three report lanes where reports can be displayed.

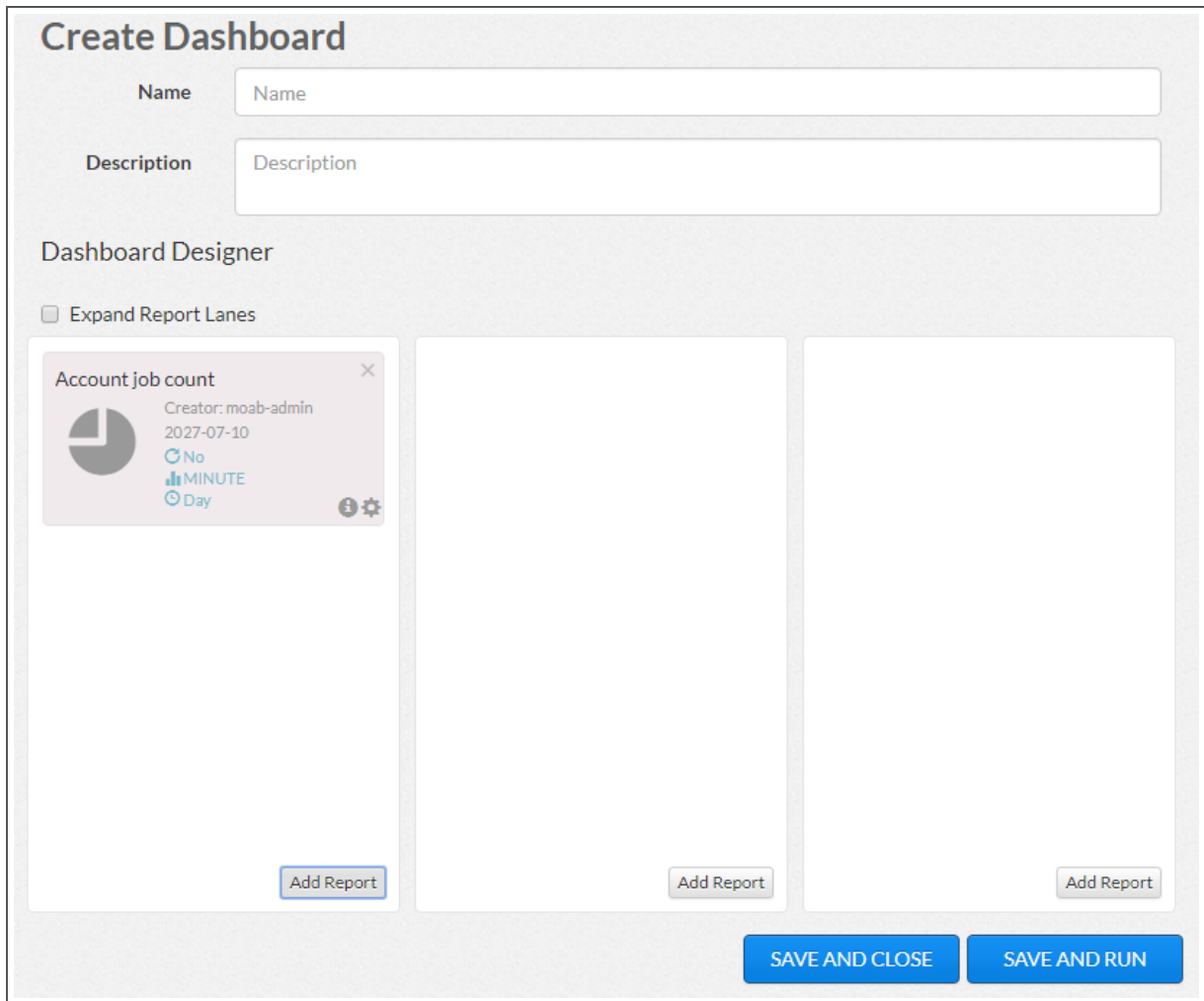
Follow these steps to add a report to a report lane:

1. Click the `Add Report` button at the bottom of the report lane where you want the report to be displayed. The Dashboard Designer displays a drop-down list of available reports:



2. Click the name of the report you want to display in the report lane.

3. Click the check icon  next to the name of the selected report. Viewpoint adds a report summary to the report lane in which you clicked the Add Report button:



Create Dashboard

Name

Description

Dashboard Designer

☐ Expand Report Lanes

Account job count ×

Creator: moab-admin
2027-07-10
No
MINUTE
Day

Add Report **Add Report** **Add Report**

SAVE AND CLOSE **SAVE AND RUN**

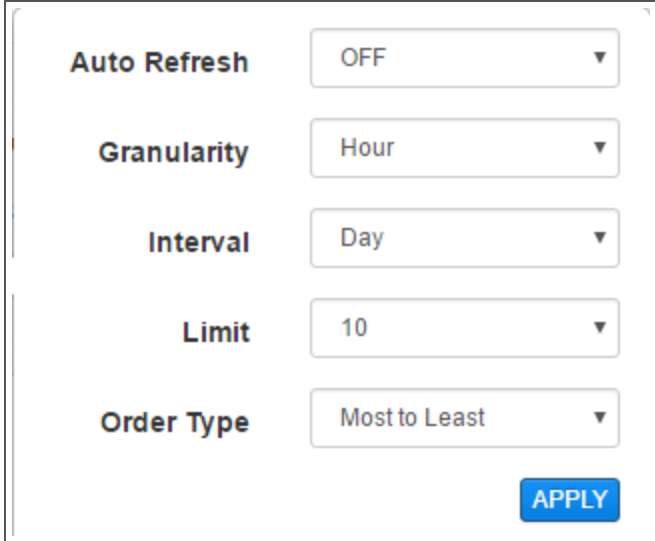
4. You can change the position of the report on the dashboard by dragging and dropping the report summary to a different position in the report lane or to a different report lane. You can remove the report from the dashboard by clicking the × in the upper right corner of the report summary.

Viewing a Report Description

You can view a description of a report by clicking the icon in the lower right corner of the report summary. The report description is added to the report by the report designer and may include instructions for how to use the report.

Configuring Report Settings

If desired, you can set default report settings by clicking the  icon in the lower right corner of the report summary:



The image shows a 'Report Settings' dialog box with five configuration options, each with a dropdown menu, and an 'APPLY' button at the bottom right.

Auto Refresh	OFF ▼
Granularity	Hour ▼
Interval	Day ▼
Limit	10 ▼
Order Type	Most to Least ▼

APPLY

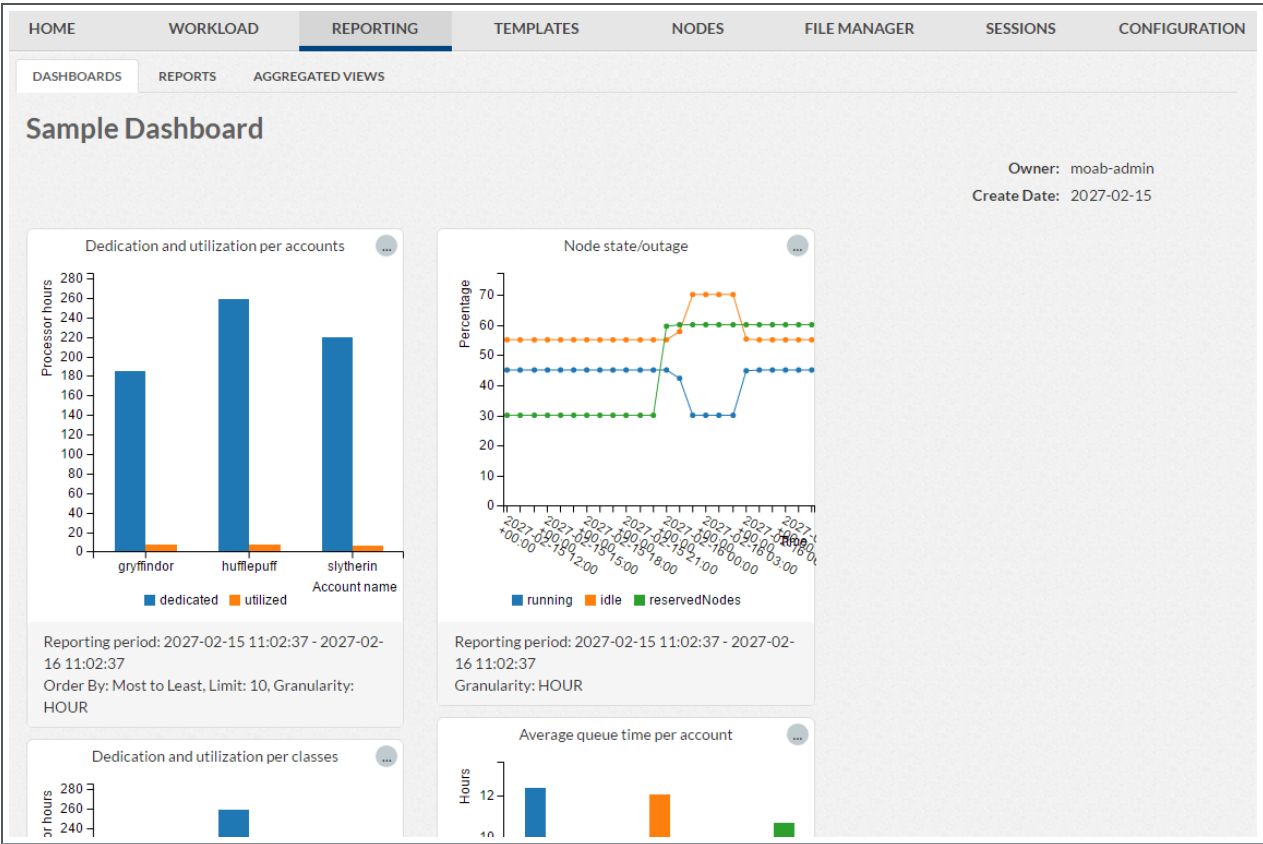
Report settings vary according to the data type displayed in the report, and may include:

- **Auto Refresh** – How frequently the report data is refreshed and the report redisplayed. Select `OFF` to turn off auto refresh.
- **Granularity** – Time interval for data to be summarized. For example, the `Unique user job count` report displays a line graph where each data point represents the number of unique users whose job was completed during the time interval. Varying Granularity and Interval can facilitate data analysis.
- **Interval** – Time interval to be presented in the report.
- **Limit** – The maximum number of data values to be displayed.
- **Order Type** – The order in which to display the data values (Most to Least or Least to Most).

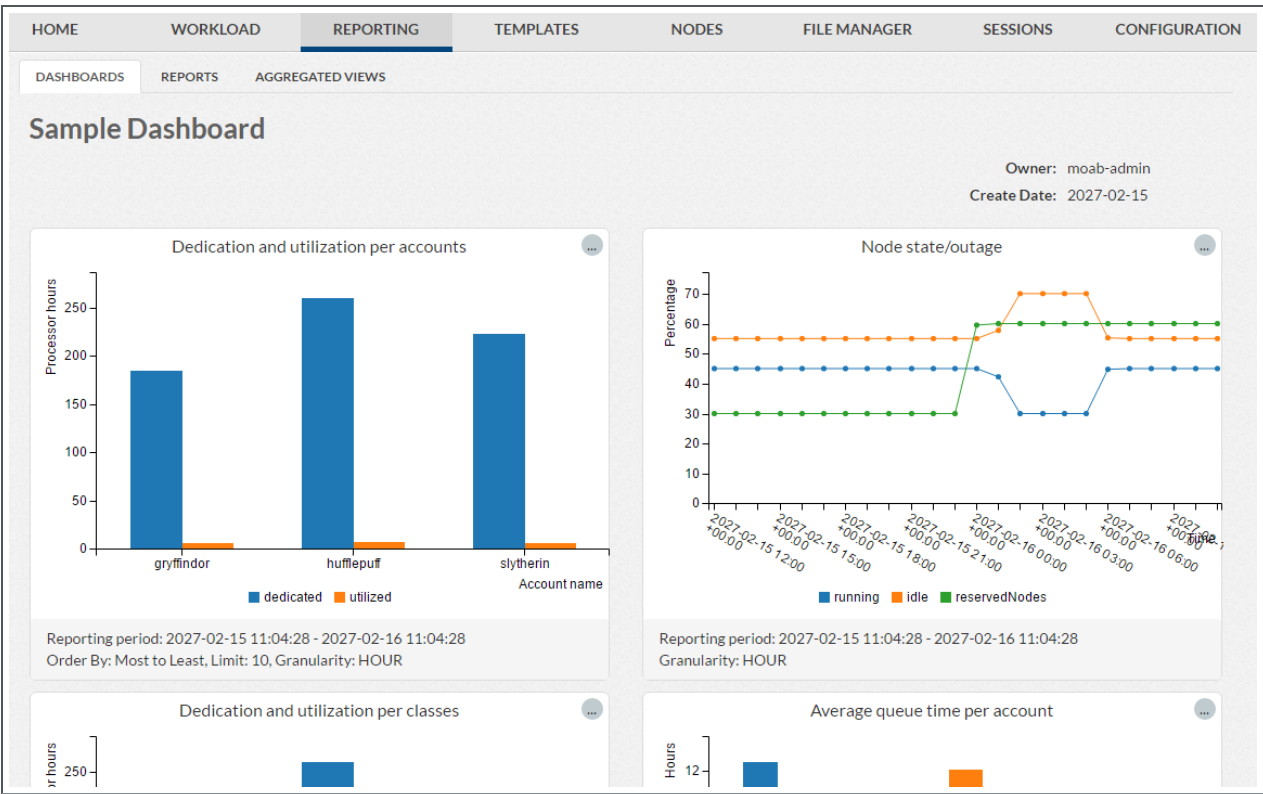
Modifying the Dashboard Display

At the top of the Dashboard Designer, there is a check box labeled `Expand Report Lanes`. When the check box is checked, Viewpoint expands the width of a dashboard's report lanes to fill the **Viewpoint** page (when the dashboard is designed to have reports in just one or two report lanes; the check box has no effect when the dashboard has reports in three report lanes).

A dashboard with reports in two report lanes and the Expand Report Lanes check box unchecked is shown below:



And this is how the same dashboard appears when the `Expand Report Lanes` check box has been checked:



Saving a Dashboard Design

When you have finished designing your dashboard, click `SAVE AND CLOSE` to save the dashboard and close the page, *or* click `SAVE AND RUN` to save and view the dashboard.

7.4.7 Provided Dashboards

Viewpoint comes configured with a dashboard that you can copy or customize for your environment. The provided dashboard is:

- Sample dashboard – A simple dashboard that displays a set of reports in a two-column format.

This shows the Sample dashboard:

